

Teacher perceptions (K-8) of data-driven decision making practices: A case study of one urban  
Saskatchewan school district

A Thesis Submitted to  
The College of Graduate Studies and Research  
In Partial Fulfillment of the Requirements for the Degree of Master of Education  
In the Department of Educational Administration  
University of Saskatchewan  
Saskatoon, Canada

By  
Chantelle Balicki  
June 7, 2016

## **Acknowledgements**

This thesis has been an educational journey for me even before I entered the College of Education or graduate studies. I was fortunate enough to be raised within a family who always valued the importance of higher education and a public school system with exceptional teachers who encouraged my learning and inspired me to become an educator myself. Also, to my students who remind me daily how important this work is and how academic achievement is only one piece of the unique individuals they will grow up to be.

I am thankful for the recommendations and assistance of my thesis committee: Dr. Burgess, Dr. Newton, Dr. Squires, and Dr. Engler-Stringer and for the direction and countless hours spent by my advisor Dr. Scott Tunison. I am thankful for each of your commitment to this work and for challenging me to turn this thesis in to a project I could be truly proud of.

Lastly, I am grateful for the support of my husband, Brady. He has written tuition cheques, busied himself outside to allow me a quiet house to myself when needed, put up with piles of papers and books all over our house, and continued to support my work after the first promised deadline had passed. And the second. And the third. I am so thankful to have married the most patient man.

## **Abstract**

This study examined the perceptions of kindergarten to grade eight teachers in one urban school district regarding data driven decision making practices and the perceived barriers and supports associated with current assessment expectations. The study answered the research question regarding perceived mechanisms K-8 teachers believe either help or hinder data-driven decision making practices both in their own classrooms and as part of a school-wide professional community.

Literature on the evolution of data-driven decision making practices and implications for the current expectations in Saskatchewan were examined. Literature on the positive effects of both a formal, data driven decision making process and classroom-based formative assessment practices were also examined, as well as leadership strategies that lead to more effective school data cultures and improved instructional practices from assessment data.

110 elementary teachers and school leaders participated in the online survey to determine current practices and perceptions of data-driven decision making expectations in one urban school district. Seven teachers and administrators also participated in a follow-up interpretation panel to help analyse survey results and add to the overall research conversation. Results were analysed through a framework consisting of 9 indicators for efficacious data driven decision making practices at the school level. Six themes emerged from the data to infer how teachers practice and perceive data-driven decision making processes. These theme include: valuing multiple forms of assessment, time and workload intensification, leadership and communication, resources required to be responsive to assessment data, and teacher training and capacity building.

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## Chapter 1: Introduction

*“If only medical thermometers could tell us how much and to what extent students have internalized learning experiences, teachers’ lives would be much easier” (Doubek, 2010, p. 11)*

In Canada, and most of the western world, more formalized assessment tools are becoming increasingly more prominent as the basis for measuring both student achievement and school effectiveness. Currently every Canadian province and territory, with the exception of Prince Edward Island, has administered some form of large-scale student assessment whether by district choice or provincial mandate (Volante, 2007). Policies continue to change within each province, which have varied the extent to which provincial governments are looking to implement standardized measures of formal student achievement testing. Consequently, an increased focus on data-driven decision making with varying stakes and accountability has become the norm.

In addition to more formal or standardized measures, a focus on classroom-based formative assessment has also become increasingly popular in schools districts today and in educational research (Black & Wiliam, 2009; Fuchs & Fuchs 1986; Hattie & Timperley, 2007; Stiggins, 2002; Tomlinson & Moon, 2013; Wiliam, 2011). Many researchers argue that improving formative assessment to respond to the needs of students and by including students in taking ownership of tracking their own learning progress has the largest impact on student learning (Black & Wiliam, 2009; Hattie, 2008).

Professional conversations around the topics of student learning and instructional decision making have always occurred in the education sector. Teachers talk in the staff room about new strategies they are trying in the classroom and whether or not they are contributing to student achievement. These discussions however have traditionally been based on a teacher's "gut feeling" or perceptions of personal experiences, often without evidence to support it. A newer development in the field of education is a more structured process of this-- the idea of data-driven decision making and evidenced-based practice to inform instructional decisions (Doubek, 2010). Given the clear research regarding the impact on learning outcomes effective assessment can achieve, it is no longer sufficient to base instructional decision making on gut feelings alone (William, 2009).

In educational research, the media, and in school board, district, and school-based discussions, the concept of using assessment to inform decision making is becoming increasingly more common. Furthermore, many school divisions have taken a more formalized approach to this by implementing "collaborative inquiry teams" (CITs), "professional learning communities (PLCs)", and "data teams" (DTs), among other organizational strategies, to encourage teachers and administrators to engage with both formative and standardized student assessment data (Love, 2009). While contemporary educators will have been involved in many of these organizational teams, questions still remain:

- Do educators value the process of using assessment data to inform decisions?
- Do they have the skills to do so?

- Which types of data are most valuable to teachers when making decisions about student learning?
- Do current organizational structures in place actually lead to increased data-driven decision making practices among classroom teachers?
- Are educators using assessment effectively to (i) plan for instruction at the classroom level, and (ii) engage purposefully in strategic planning at the school-wide level?
- To what extent are data-driven decision making practices actually occurring in classrooms?
- Are school-level and division-level leaders able to impact data-driven decision making practices in schools?

### **Researcher's Position and Statement of Problem**

As a Special Education Resource Teacher, administrator, and as a school leader on our staff's data team, I have been working with individual classroom teachers and whole staffs to use data from both standardized, large-scale assessments and classroom-based assessments to make informed decisions about student programming and long range planning for student success. In recent years, I have seen school divisions in this province place greater emphasis on data-driven decision making.

The process of using assessment data formatively to inform school-based and classroom-based decision-making in this province is evolving. At a broader level, I have witnessed administrators encourage staff and community members to engage with school-wide data and contribute to strategic planning and goal setting for the school. In addition, CITs and

DTs have been established to promote data-based decision making at both the school-wide and classroom level. I have seen engagement in assessment data evolve over the years from teachers merely collecting summative classroom assessment data for reporting purposes to teachers beginning to value various types of student assessment, both formal and informal, to improve instructional decisions on a more regular basis.

I have an educational background in using assessment to differentiate for students, and as a specialized leader in this area this topic is of interest to me. As an administrator I also want to know more about such things as:

- how to engage teachers in the process of using assessment effectively to inform classroom instructional decisions;
- how to engage my staff as a whole to collaborate as part of our whole-school strategic planning process;
- how to build skills and capacity in my staff so that we might use assessment practices more effectively to increase student success; and
- to determine what my staff needs in order to be effective data-driven decision makers in a formative assessment process.

### **Purpose of the Study**

The purpose of this study was two-fold:

1. To examine the current data culture in one urban school district in Saskatchewan and the extent to which teachers valued particular data-driven decision making practices.

2. To examine teacher perceptions in relation to data-driven decision making practices and what might improve these practices.

### **Research Question**

Given the purpose of this study the following research question was explored:

1. What are the perceived mechanisms K-8 teachers believe either help or hinder data-driven decision making practices
  - a. in a teacher's own classroom?
  - b. as part of a school-wide professional community?

### **Assumptions**

In my own experiences, I have found that though teachers value assessment, they do not always value these processes in the same manner ministries and division-level leaders do. I have also found that teachers want to use assessment measures to plan for instruction, but they do not always have the skills or supports to do so effectively, or they experience or perceive barriers to improving their practices in regards to responsive instruction. My assumption is this experience is perhaps universal to a wider group and I wanted to dig deeper to examine teacher perceptions in one urban school district to determine if I was correct.

I have found that many teachers view at least some form of data-driven decision making as something they need to do in order to support higher level initiatives rather than a strategy they find meaningful as educators to make a difference in their classrooms for student success. It is also my experience that some teachers have yet to understand the terminology and theory

around data-driven decision making and how to collect the right assessment data to answer the questions they have around instructional programming. I have noticed that many teachers do not have the skills to analyse assessment data effectively and make changes to their instruction based on quality data. In addition, I wonder if educators feel they have the time, energy, training, buy-in, direction, and support from leadership to see the value in this process and to feel capable of employing data-driven decision making strategies.

I assume there are many obstacles and support mechanisms to be identified that either enable or hinder the assessment culture in schools and the individual assessment practices among classroom teachers.

## **Limitations**

This study had the following limitations:

- Though the researcher made every effort to guarantee anonymity and make participants feel comfortable, they may not have felt comfortable sharing their opinions and practices with a colleague employed in their same school district.
- Data collection instruments could have potentially been misinterpreted by participants.
- Participants were from one school division therefore results cannot be generalized to other divisions where different structures and expectations are in place.
- Because participation in this study was “low stakes” for participants, response rates were lower or may have attracted only those participants with an extreme opinion regarding assessment practices.



## **Delimitations**

This study had the following delimitations:

- The study focused on one urban school division in Western Canada.
- Participants included kindergarten to grade 8 teachers, including: classroom, itinerant, special education/resource, teacher librarians and English as an additional language teachers. Administrators who carried a current teaching load were also included (Vice Principals).

## **Defining Key Terms**

For the purpose of the study, these key terms are defined as follows:

**Data culture.** Building on the work of the Council of the Chief State School Officers (2008), Love (2009), and Peery (2011), a data culture is a community of inquiry that uses data-driven decision making for the purpose of improving student learning and involves:

- a) building collaborative teams that engage in assessment data together as a staff;
- b) using available assessment data frequently, productively, in depth and connecting it to desired results;
- c) using assessment data formatively to improve instruction and decision making
- d) building distributive leadership and teaching capacity regarding data-driven assessment practices; and
- e) high levels of data literacy among staff.

**Data-driven decision making.** Sometimes referred to as “*evidence-based practice*”, data-driven decision making has been defined by many researchers in the field. Building on Love’s work (2004), data-driven decision making (DDDM) is the process by which professional educators, both individually in their own work and collaboratively with colleagues or whole staffs, engage in collecting, interpreting, and using assessment data to inform instructional practices with the ultimate goal of increasing student achievement. Nancy Love (2004) defined DDDM as: “the [process of examining] multiple measures and multiple levels of data, to consider the research, and to draw sound inferences” (p. 22).

**Data team.** A data team (DT) is a model for continuous, collaborative action that inspires and empowers professionals to improve teaching, learning, and leadership for all (Reeves, 2010). According to Reeves, the terms, *collaborative inquiry teams*, *professional learning groups*, and *data teams*, among other terms, are used interchangeably in the literature to describe small groups of professional teaching staff who collaboratively engage with student data and experiment with different research-based instructional strategies to improve student learning outcomes (Reeves, 2010). DTs could consist of (i) small, grade-alike or subject-alike groupings of teachers working together to collect evidence toward a particular student achievement goal, or (ii) a more broad, school-wide team who use data to steer strategic planning (Love, 2009).

**Large-scale assessment.** Large-scale assessments are summative, district or province-wide assessments (Love, 2009). Specifically, these assessments are standardized and provide large-scale information on student achievement, student cognitive potential, school

demographics, and/ or attitudes. The Canadian Achievement Test (CAT), Canadian Test of Cognitive Skills (CTCS), Programme for International Student Assessment (PISA) and The Pan-Canadian Assessment Program (PCAP) are examples of large scale assessments.

**School-wide assessments.** School-wide assessments are defined as those that schools have chosen collectively to evaluate student progress toward individual school-based goals. These may be standardized and formal, or designed collaboratively by teachers. They could be used formatively, for summative purposes, or both. School-wide assessments are adopted by every classroom teacher in a school, or specific groups of teachers, to ensure the same assessment tool is used to measure a school-wide achievement goal (e.g. improved reading comprehension or increased fluency of basic math facts).

**Classroom-based assessments.** Classroom-based assessments are teacher chosen and/or developed assessments, for formative or summative use, not mandated by administration, school districts, or government. These assessments may be constructed or pre-selected by a teacher to assess student success on curricular outcomes. Checklists, rubrics, math problem of the week, anecdotal notes, pre-and post-unit tests, task-based assessments, professionally developed assessments designed by or chosen by the teacher are examples of classroom-based assessments.

## **Organization of Thesis**

This thesis is organized into five chapters. The first chapter has introduced the thesis topic and questions of inquiry that has led to the research study. I have provided reasoning for my interest in this topic, how my own educational background has lead me to a study of data-

driven decision making, and the significance of the topic within the current educational context. Assumptions, delimitations, and limitations were outlined and definitions of key terms that are essential to this thesis were provided.

In the second chapter, I provide a review of the contemporary and relevant literature regarding the history of data-driven decision making as well as the current context in which educators find themselves in terms of data-driven decision making. Literature suggesting effective practices for leaders at the school level and teachers at the classroom level regarding data-driven decision making is also explored. I conclude chapter two with the conceptual framework that guided the inquiries associated with this thesis.

In chapter three I describe the methodology used in the study. The design of the study is outlined and ethical considerations are discussed. In chapter four I present the data collected from (i) the online survey tool, and (ii) follow-up interpretation panels as well of an analysis of these data. Finally, I conclude with chapter five and answer the research questions and outline implications for educational leadership as well as potential areas for further study and inquiry on the topic of data-driven decision making in Saskatchewan elementary schools.

## **Chapter 2: Literature Review**

Data-driven decision making (DDDM) is not a new concept; it has existed as part of industry and government policy, and the field of medicine for quite some time (Hooper, 1968; Johnson, 2007; United States department of Defense, 2013). In more recent years, beginning in the mid-80s, this term began to work its way more specifically into the field of education. Though the idea of collecting data in schools on student achievement, attendance, graduation rates, etc. has been a part of education for decades, it has become more important in recent years to report and be accountable to these data in informing government and the public on the true state of the education system. More importantly, it has become increasingly apparent that data-driven decision making practices, when used effectively, can have a large impact on improved student learning (Black & Wiliam, 2009; Hattie, 2009).

This chapter will briefly review the evolution of DDDM. First, an overview of the evolution of DDDM practices in government, industry and the field of medicine is provided. Secondly, DDDM will be reviewed in terms of its evolution in the field of international education contexts, within Canada, and in the current context in the province of Saskatchewan. This evolution will be described both in terms of formal assessment practices for accountability purposes, and formative assessment practices for improved instructional decision making and student outcomes. Third, a review of current leadership practices expected to improve DDDM practices and overall student achievement will be examined followed by expected practices for classroom teachers to ensure data and assessment practices are used appropriately to inform instruction and plan for improvement in student achievement. I conclude this chapter with the conceptual framework that has guided this research project.

## **Interdisciplinary Scope of DDDM**

Much of what we see in the contemporary literature regarding data-driven decision making in the field of education has derived from the evolution of this concept in industry, medicine, and broader government policy. Each one of these sectors has had an impact on how we have come to use data in schools. While it is beyond the scope of this thesis to document fully the evolution of DDDM in the above-mentioned fields, this section will briefly detail the influence on the term and current implications for the education sector.

**Industry.** The concept of using data to increase efficiency started to popularize following the second industrial revolution. Populations were growing, and technology had been introduced which allowed for mass production of goods at a price the general population could now afford. Mass production and the assembly line became the main structures in industry production and companies needed to look toward methods of increasing productivity to meet market demands and capitalize on profits (Kucera, 2001).

At the turn of the twentieth century, William Fredrick Taylor was looking to improve efficiency in the work force through his Scientific Management Theory (Taylor, 1911). Through extensive observations and data collection Taylor discovered three causes that led to inefficient work in the labor field. First, the misconception among workers that if they were to work faster and more efficiently, they would inevitably be out of work as they would be producing faster than demand. Second, Taylor observed the natural tendency for workers to want to “take it easy” if they are not being rewarded for working harder; and third, that work methods are often not scientifically standardized where workers lack training in the most efficient methods

to complete their work (Taylor, 1911). In response to Taylor's day to day field research, production became more scientifically controlled and streamlined by upper management (Kucera, 2001). It was here that industry started to look at specific methods, or evidence-based practice, that statistically produced higher productivity rather than relying on the advice and preferred practices of veterans in the field to simply train employees on the methods they preferred.

This model of thinking was also popularized by Henry Ford and subsequently the Japanese auto industry to increase efficiency in the mass production of automobiles (Kucera, 2001). This thinking was data-driven decision making before the term was ever coined, and though controversial (Proudlove, Moxham & Broaden, 2008; Young & McClean, 2008) we recognize these data-driven philosophies in our educational practices today, and in the field of medicine as well.

**Medicine.** The concepts of data mining, evidence-based practice, and Lean management in the field of medicine have influenced DDDM policy and actions in the field of education. One of the earliest successful studies including data mining in the field of medicine was recorded in the mid-1800s when London was hit by an infectious cholera outbreak.

***Data mining in the 1800s.*** John Snow became known as the father of epidemiology through his innovative methods of mapping data to disprove the miasma theory that cholera was an airborne disease (Fine, Victora, Rothman, Moore, & Yuan, 2013). Through looking for trends in data and mapping them out, Snow was able to prove that the cholera outbreak was instead spread through the drinking water at the Broad Street well. Snow combined demographic data with scientific observation which inevitably set a precedent in the field of

epidemiology (Johnson, 2006). Through these methods scientists began to look for trends in data to inform decision-making processes.

***Lean management.*** Similar to Taylor and Ford’s methods of streamlining processes and creating more efficient systems in industry, recently these processes of data-driven decision making has been used in the field of medicine through the practice of Lean management.

Lean management originated from the Toyota Motor Company in Japan in an effort to increase productivity by decreasing waste and has impacted many business models in industry, medicine, and education (Kucera, 2001; SHQC, 2015; Teich & Faddoul, 2013). Though this production system was established in 1918, the term “lean” was coined in 1990 when exploration of the Toyota model led to a transference of a working system that could be applied to a variety of different organizations, industries, and management issues (Teich & Faddoul, 2013). It was in 1990 when Lean management was introduced to the healthcare system for the first time. Engineer and management consultant, Joseph Juran linked the two industries and their management principles by advising the health care system to look to other industries to determine what has worked and what has not, and advising that managerial processes are alike in all industries despite differences in product or client (Manos, Sattler, & Alukal, 2006).

As defined by Teich and Faddoul (2013), Lean is a “multi-faceted concept that requires organizations to exert effort along several dimensions simultaneously” (p. 2). The purpose of Lean management is to create more efficient systems which minimize wasteful efforts. Hoshin Kanri is the framework used in the Lean management movement in Saskatchewan health care



to create better efficiency that was adopted from Toyota Motor Company. It provides a framework for strategic planning in a variety of organizational settings designed with the following benefits:

- to provide a focused corporate direction by annually setting a few strategic priorities;
- to align the strategic priorities with local plans and programmes;
- to integrate the strategic priorities with daily management; and
- to provide a structured review of the progress of the strategic priorities (Tennant & Roberts, 2001).

The Saskatchewan health care system in Western Canada adopted the Hoshin Kanri model for Lean management in learning from other health systems that patient care could be improved if systems plan and work in a more coordinated way (Saskatchewan Health Quality Council, 2015). In 2014 the Government of Saskatchewan initiated a five-year plan with strategic priorities for 2014-2015 (Government of Saskatchewan, 2014c). The plan is extensive and includes measureable healthcare outcomes to be met through improvement targets within the five-year plan. For example, a 2014-2015 breakthrough improvement goal has also been set with aims to improve emergency department wait time and patient flow. A Hoshin target has been set to ensure at least 85% of patients requiring admission from emergency are admitted to an appropriate bed within 5 hours (Government of Saskatchewan, 2014c).

This plan was initiated through the Government of Saskatchewan's *Vision 2020 and Beyond* goals which include goals and plans for growth in Saskatchewan across a variety of

government sectors by the year 2020. *Vision 2020* has greatly influenced the contemporary educational context in Saskatchewan and will be discussed in more depth later in this chapter.

**Government.** As industry started to see the benefits of using data to inform decision making in business, western governments started to utilize this practice as well. One example of this is the evolution of data-driven decision making in the United States during the Kennedy administration (United States Department of Defence, 2013).

Though Henry Ford's theories of productivity and efficiency were grounded in the intent to drive industry, similar patterns of thinking were beginning to emerge in government policy in the United States. As Secretary of Defence, McNamara worked towards unifying supply procurement, distribution, and inventory management (United States Department of Defence, 2013). His institution of systems analysis became a basis for decision making on force requirements, weapons systems, and other controversial matters (United States Department of Defence, 2013). One example of this is the implementation of the Planning Programming Budgeting System (PPBS).

The purpose of the PPBS was to analyze the requirements for defence systematically and to produce a long-term, program-oriented defense budget for the United States Government. It put major emphasis on identifying program objectives by measuring actual results in quantitative terms and required some "bureaucratic unlearning" for government administration (Hooper, 1968). This philosophy meant administration would have to learn to measure results differently than they were traditionally used to; they would be asked to use concrete numbers and measurements of successes and failures rather than anecdotal

conversations among experts about what ought to work. For its time, the PPBS system of analysis was controversial. It was criticized by one journalist as being a “human IBM machine” who cares more for statistical logic than for human judgements. (United States Department of Defence, 2013).

In this new era, concrete data analysis was being used to make government decisions over the qualitative opinions and intuitions of experienced policy makers, or at least alongside them. In the early 1990s the Clinton administration introduced the Government Performance and Results Act. It is here that we start to see the emphasis on accountability, results, and standards across multi-year plans in the field of education in the western world that has been met with both praise and critique.

### **Data-driven Decision Making in Education**

The process of data-driven decision making (DDDM) has evolved in the field of education in multiple countries world-wide and in a variety of educational contexts. Many of these contexts have influenced the current era we find ourselves in Saskatchewan today concerning how we use assessment data to plan for student success.

### **International Context**

An international educational context and relationship to DDDM will be briefly reviewed in the following section. Given the United States, as our neighbouring country as well as a political world leader, has influenced educational direction in Canada, and both England and Australia are two Commonwealth countries who share a similar curricular focus with Canada,

these comparisons seem appropriate outlining the evolution of data-driven decision making and its current context today in education.

**United States.** For much of the 1990s the Clinton administration in the United States pushed to increase the demands of accountability in education. The following section will review a linear recent history as it applies to the topic of data-driven decision making in the education sector.

In 1993, President Clinton signed Public Law no. 103-62, the Government Performance and Results Act (GPRA). The portions of the act that have influenced DDDM practices in contemporary education include a call to improve the confidence of the American people in the capability of the Federal Government by systematically holding federal agencies accountable for achieving program results as well as to initiate program performance reform to set program goals, measure program performance against those goals, and report to the public on their progress (NASA Headquarters Library, 2009). Also, Clinton called to improve Federal program effectiveness and public accountability by placing a focus on results (NASA Headquarters Library, 2009). Though intended for Federal regulation and to encompass a broader scope at the government level, we start to see the value the United States Government was placing on accountability and results-oriented legislation. By the mid-nineties, Clinton began to narrow this expectation to speak specifically to the field of education.

In Clinton's fifth state of the union address he called for a "national crusade for educational standards" to represent what all students in America should know to succeed in the twenty-first century (Clinton, 1997). He further asked that over the next two years national tests of student achievement be developed in the areas of reading and math, and that every

state adopt standards to measure student achievement in grades four and eight. By the late 1990s it became clear formal accountability measures were not a passing trend. In his sixth state of the union address Clinton spoke of a ten-point plan to move the country forward in the field of education. This plan included a larger emphasis being placed on reading standards (Clinton, 1998). Clinton spoke to the importance of ensuring all students are reading by age eight, raising the bar for expectations and accountability on student learning, and accounting for teacher competency (Clinton, 1998).

In 1999 Clinton took initiatives that were perhaps most influential to the educational policy and legislation we see in the United States today. For the first time, these accountability measures were being recognized as “high stakes” when Clinton demanded low performing schools improve their results or be shut down (Clinton, 1999). In this address it was made clear that school districts would be held accountable for teacher performance and school effectiveness. In terms of data-driven decision making he stated that his Education Accountability Act would require every school district receiving federal funding to take the following steps:

- ensure that no child would graduate without being able to read;
- to turn around worst performing schools or shut them down; And
- to empower parents with more information and choices regarding public schools.

Report cards for each school would be issued to the public to indicate quality as well as an increase in charter school options (Clinton, 1999)

Points two and three: to turn around worst performing schools and empower parents with more information, have formed the foundation for later developments in educational accountability and how schools use data to inform instruction and decisions that will improve student achievement in the United States.

Three days after taking office, George W. Bush announced his intentions for the *No Child Left Behind Act* (NCLB Act). Under this Act, the US government aimed to increase accountability for educational standards while providing flexibility for states, school districts, and schools to meet standards based goals in regards to student achievement (Dillon & Rotherham, 2007; US Department of Education, 2002). While the NCLB Act illustrated many areas pertaining to educators, of particular interest to the topic of data-driven decision making is the concept of measuring Adequate Yearly Progress (AYP). This measure of AYP began to force school districts to be accountable for their progress in student achievement (Dillon & Rotherham, 2007).

***Impact of the NCLB Act.*** Under the requirements of the *NCLB Act*, in addition to a state's own accountability plan, school districts are provided guidelines to calculate whether a school meets AYP (Dillon & Rotherham, 2007). In exchange for complying with these requirements, states receive federal funding for educational services. If schools failed to meet the requirements of AYP they would be subject to review and possible closure or forced change in management (Dillon & Rotherham, 2007). The idea that student achievement and school success was to be evaluated by standardized measures, that schools would be held accountable to these measures, and that these measures were to include all, or the vast majority of students, began to form the foundation of our current concept of high stakes DDDM in

education today.

With stakes this high for American schools, using data appropriately and creatively to not only prove AYP but to inform instructional practices and school policies to ensure AYP was met became crucial. Though the United States' education model is known for its "high stakes" approach to holding schools accountable for student learning (Amrein & Berliner, 2002; Diamond & Spillane, 2004), countries such as England, Australia and Canada have followed suit in implementing accountability measures for schools as well, and measuring student achievement to inform instruction, policy, and in some cases legislation.

**England.** In contrast to the United States and Canada, where elementary and secondary curriculum is a state or provincial responsibility, the Education Reform Act, 1988 in England established a national curriculum which includes both content areas to be taught and assessment expectations. In England it is also expected that schools include students in mandated national assessments in order to receive public funding (Cumming, 2012). Common curriculum and public examinations were also included in the traditional make up of educational assessment in England (Cumming, 2012). By 2010 the educational accountability focus had shifted from the use of end of secondary school outcomes to the national curriculum assessment in English and mathematics for 11 year olds in elementary schools (Cumming, 2012).

This external reporting of student outcomes had become more high stakes for English schools as they were now reported to the public. School performance data would provide parents and the media with the capacity to rate school performance on different performance indicators. This practice forced school leaders to create action plans to increase student

proficiency or they may be turned into academies, and managed similarly to US charter schools, or face closure (Cumming, 2012). For this reason, using data to inform strategic planning, allocation of resources, as well as classroom-based instruction or student intervention became highly important as the alternative to increased student performance was so high stakes.

**Australia.** In Australia, the current educational policy is somewhat less clear. The Australian government has no specific constitutional responsibility for education which leaves ambiguity over whether education is to be a federal or state domain (Cumming, 2012). Educational policy documents indicate education is a state and territory matter; however the Australian federal government has used the “power of the purse”, to disperse income taxes through funding provision acts to legislate considerable centralized control in education policy (Cumming, 2012). Currently, in order to receive funding for public, private, and religious-based schools all students in years 3, 5, 7, and 9 must participate in annual common national tests in the areas of literacy and numeracy. Since a national curriculum is not in place, the tests for accountability purposes are based on agreed upon standards for students at these year levels (Cumming, 2012).

In addition, each state has school-based assessments of the curriculum, some of which have an external public examination component in the final year of secondary school. In contrast to the US and England however, Australia’s accountability assessments have been independent of state curriculum expectations (Cumming, 2012). Originally, to ensure basic outcomes were being met, national statements of minimal standards that all students were expected to achieve were developed and funding was tied to these. The current assessment and accountability plan in Australia however was developed by joint agreement of the state



ministers in 2005 and determined standards that students would be expected to achieve by the end of years 2, 4, 6 and 8 (Cumming, 2012).

Though students are socially promoted through the grade levels in Australia, regardless of their achievement on these examinations, teachers are expected to adapt instruction to a variety of student learning levels, and therefore this data is useful in determining proper student programming (Cumming, 2012). These national examination scores are also reported to the public through a federal website. Individual schools in Australia are compared to statistically similar schools, using demographic information. This public knowledge of school performance has increased the stakes of these examinations (Cumming, 2012). As in the US and England, funding is tied to school performance outcomes.

### **Canadian Context**

In Canada, pre-kindergarten to grade twelve education is the responsibility of each individual province and territory, with some funding being allocated at a national level for the education of First Nations, Inuit and Métis students (Government of Canada, 2010). Currently there is no national curriculum or formal set of national standards to measure schools or student achievement for the purpose of accountability (Wallner, 2009); however, Canadian-normed standardized exams are given to many Canadian students at the choice of individual provinces or school divisions, such as the Canadian Achievement Test (CAT) or the Canadian Test of Cognitive Skills (CTCS) for planning and programming purposes (Canadian Test Centre, 2013). In addition, many Canadian provinces mandate provincial tests with varying stakes from one province to the next. Some of these will be reviewed in the sections to follow. Each individual province is responsible for creating its own educational standards, curricula, and

school management systems to ensure they are effective through provincial ministries of education (Wallner, 2009).

Recently, accountability measures have been used more frequently in Canadian provinces to determine funding, allocations of resources, and in holding schools responsible for student achievement. From this, the practice of DDDM has become almost synonymous to the term, *accountability*. The remainder of this section will review the formal data-driven decision making context in the Canadian provinces that have perhaps had the most impact on educational policy in Saskatchewan, the proposed province of study.

**Alberta.** In the past couple of decades Alberta has actively increased accountability for educational performance through student achievement and examination programs, evaluation policies, and through publicly reporting requirements.

In 1994, the Alberta government introduced legislation that mandated accountability measures for all government departments, including education (Burger, Bolender, Keates, & Townsend, 2000). This legislation led to a province-wide planning model for increased and improved reporting of information to enhance accountability measures (McEwan, 1995). In addition, student information systems began to provide policy makers and administrators with accurate, up-to-date information regarding student achievement and demographics (McEwan, 1995). It is at this point in time that the Alberta education system needed to look more closely at the necessary data in order to inform policy and school decision making.

The Educational Quality Indicators initiative was another government implementation to promote results-based education in Alberta. Each aspect focused on specific areas of educational improvement and accountability, and consisted of comprehensive school system

reviews, school and district profiles, and a model for school evaluation. From here, annual reports were distributed to superintendents and principals, and eventually to the public (McEwan, 1995). Administrators would need to be accountable for the educational decisions being made in their schools and would need to reference concrete data to back these decisions. After all, the public and government would have these data as well.

In 1995 the Government Accountability Act stated the following:

- a board shall develop a reporting and accountability system on any matter the Minister prescribes;
- a board shall disseminate any information in the reports and accounts produced to students, parents, electors or the minister in the manner the Minister prescribes;
- And
- a board shall use any information in the reports and accounts produced in the manner the minister prescribes (Burger et. al, 2000).

In addition, the Accountability in Education Policy Framework provided that:

- provincially mandated goals, strategies, and measures for school boards and schools will ensure alignment with key provincial directions;
- six of nine provincial goals and eight of 40 provincial strategies apply directly to school board plans for the upcoming school year;
- school boards should determine additional goals, strategies and measures to reflect local needs; And

- school councils should be considered as key participants in communicating local results and in suggesting ways to improve education at the school and board levels on the basis of local results (Burger et. al, 2000).

More currently, Alberta has introduced an Accountability Pillar of the Renewed Funding Framework with the goal of improving student learning achievement while maintaining fiscal responsibility in funding education (Government of Alberta, 2013). The Accountability Pillar was meant to enhance the use of measurement in the performance management of school authorities and included outcome based performance measures, annual surveys of parents, students and teachers, as well as transparent reporting and accessible data reports. Based on provincial achievement exams, schools are ranked according to achievement and color coding methods are used to report whether schools have improved, maintained, or declined in meeting the set standards (Government of Alberta, 2013). Though the government of Alberta has not mentioned high stakes accountability measures in the uses of these rankings, such as forced change in management for low performing schools or school closures as seen in the US or England, the message of transparency is clear to the public that schools and districts are asked to plan for improved student achievement in response to the data.

**Ontario.** Recently, the province of Ontario has taken significant steps to increase accountability in education through a Provincial Assessment Program with the Educational Quality and Accountability Office (EQAO). With the exception of a few samples of student assessments during the 1970s and 1980s, Ontario had a relatively scarce history of using large-scale assessment; certainly there was no evidence of high-stakes testing for students, schools

and districts (Earl & Torrance, 2000; Volante, 2007). This practice changed in the mid-nineties with the establishment of the EQAO as a Crown agency in 1996 in response to the Report and Recommendations from the Royal Commission on Learning, which called for an independent testing agency among other changes to the Ontario education system the previous year (EQAO, 2012; Volante, 2007). In its report the Commission concluded that province –wide testing of all students would be required to provide “independent and public scrutiny of the education system” (EQAO, 2012, p. 53). From this point forward accountability measures have become more prominent in the province of Ontario. The EQAO has been adding initiatives ever since to improve academic success of Ontario students and has definitely had an impact on accountability measures and assessment practices in Ontario (EQAO, 2012; EQAO, 2014; Volante, 2007).

A requirement of the EQAO assessments was to clearly link to the Ontario Curriculum goals in which students are expected to reach by key stages of their education (Educational Quality and Accountability Office, 2012). In 1997, the EQAO began its assessment work with its first full-census assessment in reading, writing and mathematics of all grade 3 students and a sample assessment of grade 6 students in the area of mathematics. By 1998 a grade 6 assessment in reading, writing, and mathematics was added. Full-census assessment of grade 9 students in mathematics was included in the EQAO’s repertoire in 2001 followed by the first Ontario Secondary School Literacy Test (OSSLT) which would be a high-stakes assessment for grade 10 students due to it being a graduation requirement in literacy (EQAO, 2012; Volante, 2007). Each of these assessment initiatives continue to the present day and educators have been involved in the development, administration and scoring of these assessments (EQAO,

2012).

Results of the EQAO assessments are reported to the province and shared with the public, school boards, principals, as well as individual students for progress monitoring and to show more effectively where the school system is succeeding in closing the gap between low and high achieving students (EQAO, 2012). Only recently as of 2012 however, has there been further support for administrators at the individual school level in making effective use of this assessment data to inform school planning. The new online EQAO Reporting application allows principals to create learning profile of their students and focus a whole-school response to data (Educational Quality and Accountability Office, 2012) Another recent development in Ontario has been a clear addition to the *Student Achievement and School Board Governance Act* (2009) outlining the roles of school boards, trustees, board chairs and directors of education in improving student achievement through the use of EQO data (EQAO, 2012).

Despite some criticism of large-scale assessment initiatives (Alberta Teacher's Association, 2005; Volante, 2007), Ontario educators seemed to be engaged in the DDDM process with the additional student data that has been provided through EQAO initiatives. In 2011, EQAO surveyed 3400 elementary school principals, 8500 grade 3 teachers and 7300 grade 6 teachers and found that:

- 96% of principals reported they use EQAO results and questionnaire data to guide school improvement planning
- 96% of principals reported they use EQAO data to identify specific program strengths and weaknesses

- 82% of grade 3 and 80% of grade 6 teachers said they use EQAO data to identify areas of program strength and weakness in reading, writing and math
- 80% of grade 3 and 78% of grade 6 teachers reported using the data to identify how well students are meeting curricular expectations (Educational Quality and Accountability Office, 2012)

Time will tell whether or not educational professionals in Saskatchewan will find provincial assessment initiatives as valuable in informing educational programming.

**Saskatchewan.** Recently, the province of Saskatchewan has taken a similar approach to that of the Alberta model in using data to influence decision making to provide transparency through accountability measures. Though teachers have always been responsible for assessing and reporting student growth and achievement, and using classroom-based assessment data to inform instructional practices (Saskatchewan Education, 1991), in recent years more formal use of standardized testing has been at the forefront of conversations regarding accountability measures for education in Saskatchewan (Government of Saskatchewan 2013a; Government of Saskatchewan, 2013b; Spooner & Orlowski, 2013).

Over the past few years educational conversation in Saskatchewan have focused on increased accountability measures, specifically in the areas of elementary reading scores, increased graduation rates, and closing the achievement gap for First Nations, Inuit and Métis students (Government of Saskatchewan, 2013a; Government of Saskatchewan, 2013b).

Recently, the Saskatchewan Ministry of Education has come out with a plan for 2013-2014 in response to the government's *Saskatchewan Plan for Growth: Vision 2020 and Beyond*.

Though these priorities were formulated roughly a decade ago, in the plan for 2013-2014, Education Minister, Marchuk formally shared the upcoming direction for educational planning and goals which included:

- supporting higher achievement of First Nations, Métis, and Inuit (FNMI) and non-FNMI PreK-12 students and improved literacy and numeracy of all learners;
- providing equitable opportunities for all learners regardless of where they live or their personal circumstances;
- supporting smooth transitions of all early learning to Grade 12 learners throughout the course of their education;
- supporting strong system-wide accountability for governance; And
- enhancing facilities within the Minister's mandate, and improve the effectiveness and efficiency of the Ministry's programs and services (Government of Saskatchewan, 2013a).

Under these goals, the Ministry lists key actions expected to take place. The list is extensive, but some actions of note specifically involving academic achievement and data-driven decision making in schools include:

- working toward ensuring Saskatchewan leads the country in graduation rates, and reducing the disparity in graduation rates between First Nations, Inuit and Métis students and non-First Nations, Inuit and Métis by 2020;
- releasing the Comprehensive Policy on Assessment in Early Years Programs and Pre-K-12 Education to guide the Ministry in assessment;



- begin implementation of the Early Years Evaluation (EYE);
- begin implementation of the Tell Them From Me (TTFM) survey to measure student engagement;
- begin developing provincial assessments in grades 4 through 11; And
- develop a work plan to increase the number of grade 3 students performing numeracy at grade level and increase the number of grade 3 students reading at grade level by 20% by 2015 (Government of Saskatchewan, 2013a).

We see through this report the Government of Saskatchewan is looking closely at data-driven measures to increase student achievement and will be expecting schools to collect data, report them, and use them effectively in order to track and reach these educational goals. Of note, the Saskatchewan government has not included a plan for high-stakes testing models as seen in Ontario, Alberta and U.S. assessment practices.

These high-stakes assessment practices often experienced by high school students in other districts have often been criticised as having a negative impact on student achievement. For example, Kane (2002) found that low achieving students were 25% more likely to drop out of high school in districts that employ graduation tests versus districts that do not. In addition, the Alberta Teacher's Association (2005) has argued a decreased trend in students entering postsecondary schooling can be attributed to the unintended result of their accountability systems' over-emphasis on high test scores.

Though the early stages of Saskatchewan's assessment and accountability measures reform does not include some of the high-stakes testing we have seen in other provinces and countries, the assessment culture appears to be changing in our own province as well. The

Government of Saskatchewan's *Vision 2020* goals were discussed briefly in the examination of DDDM in medicine earlier in this chapter. To follow is a more detailed description of how these goals have influenced the contemporary educational context in Saskatchewan.

***Saskatchewan's Education Sector Strategic Plan.*** In April, 2014 Education Minister Don Morgan and the President of the Saskatchewan School Boards Association (SSBA) publicly announced a formal Education Sector Strategic Plan (ESSP) for the province of Saskatchewan. This plan was approved and accepted by all 28 school boards in Saskatchewan and the provincial governments as a plan for education in the province to move ahead in achieving the province's *Vision 2020* goals. Specifically this plan prioritizes goals and action plans for student success in the areas of reading and First Nations and Métis learning outcomes (Government of Saskatchewan, 2014a). At the time of this study, there are future aspirations for the ESSP to direct ministry and school district work to develop regional plans to attain these goals in each school district (Government of Saskatchewan, 2014a).

In 2014 Saskatchewan saw the ESSP as the provincial education focus that would move toward the realisation of the *Vision 2020* goals over a six year period (Government of Saskatchewan, 2014b). The ministry identified two areas for "breakthrough improvements" in 2014-2015:

- to identify and implement a unified set of provincial high-impact reading assessment, instruction and intervention strategies; And
- develop a First Nations, Inuit and Métis (FNIM) student achievement initiative (Government of Saskatchewan, 2014b).

In addition to these goals, specific goals were identified moving into further years of the plan. These include:

- By June 2020, 80% of students will be at grade level or above in reading, writing and math
- by June 2020, collaboration between FNIM and non-FNIM partners will result in significant improvement in the achievement and graduation rates of FNIM students
- by 2020, Saskatchewan's graduation rate will be 85% (measured by on-time graduation rates from statistics Canada); And
- by June 2020, 90% of students exiting kindergarten will score within the appropriate range in 4 or the 5 domains as measured by the Early Years Evaluation (EYE) (Government of Saskatchewan, 2014b).

To work toward the achievement of these goals by 2020, the ESSP included specific actions. Table 1 below describes the action plans outlined to reach the above mentioned *Vision 2020* goals (Government of Saskatchewan, 2014b).

Table 1

*Government of Saskatchewan Action Plan for Education*

<u>Goal</u>	<u>Action Plan</u>
1. By June 2020, 80% of students will be at grade level or above in reading, writing and math	<p><b>Identify and implement a unified set of provincial high-impact reading assessment, instruction and intervention strategies:</b></p> <ul style="list-style-type: none"> <li>• Develop consistent administration, collation, and reporting practices across all school divisions, and collect baseline data on reading levels of all Grade 3 students.</li> <li>• Develop and distribute an instructional practices model (K-12) for reading to support students reading at or above grade level.</li> <li>• Develop a sector reading strategy for best practice in reading, including instructional strategies, assessment and intervention for implementation in grades 1-3.</li> <li>• Create provincial and school division reading literacy teams for grades 1-3 to: <ul style="list-style-type: none"> <li>• identify needs within school divisions;</li> <li>• provide professional development in school divisions as needed; and,</li> <li>• provide resources needed to support models for learning such as literacy coaches.</li> <li>• Initiate formal discussions with teachers and post-secondary institutions to establish a partnership to examine teacher training programs.</li> </ul> </li> </ul>
2. by June 2020, collaboration between FNIM and non-FNIM partners will result in significant improvement in the achievement and graduation rates of FNIM students	<p><b>In partnership with FNM stakeholders, develop a FNM student achievement initiative:</b></p> <ul style="list-style-type: none"> <li>• Engage First Nations and Métis leaders to develop partnerships and plans in order to increase achievement and graduation rates of First Nations, Métis and Inuit/Inuk (FNMI) students.</li> <li>• Develop a governance model and transition plan to support development of the FNM student achievement initiative.</li> <li>• Determine the applicability to Saskatchewan of an indigenous education model that has demonstrated exceptional success in increasing student engagement, achievement and graduation rates in that country.</li> <li>• Establish a professional development program to support teachers in culturally responsive pedagogy.</li> <li>• Provide professional development to support in-school and system-based leaders.</li> <li>• Continue development of outcomes-based curricula that supports student learning and provides direction to teachers.</li> <li>• Work with teachers and school divisions to develop a plan for curriculum, instruction and evaluation that is linked to sector priorities.</li> </ul>
3. By 2020, Saskatchewan's graduation rate will be 85%	<ul style="list-style-type: none"> <li>• Review provincial high school graduation requirements and develop alternate pathways and supports to graduation that include increased opportunities such as off campus education, credit/outcome recovery, and hands-on learning.</li> <li>• Develop a MyBlueprint database, to be used by students entering Grade 9 to develop a 'graduation and transition from high school plan', and test the database at pilot sites in preparation for a provincial roll out in 2015-16.</li> <li>• Analyze data regarding transition of students between grades 7 and 10 and develop a middle years transition action plan for improvement</li> </ul>
4. By June 2020, 90% of students exiting kindergarten will score within the appropriate range in 4 or the 5 domains as measured by the Early Years Evaluation	<ul style="list-style-type: none"> <li>• Review provincial high school graduation requirements and develop alternate pathways and supports to graduation that include increased opportunities such as off campus education, credit/outcome recovery, and hands-on learning.</li> <li>• Develop a MyBlueprint database, to be used by students entering Grade 9 to develop a 'graduation and transition from high school plan', and test the database at pilot sites in preparation for a provincial roll out in 2015-16.</li> <li>• Analyze data regarding transition of students between grades 7 and 10 and develop a middle years transition action plan for improvement</li> </ul>

Much like the Lean medical model discussed earlier in this chapter, the ESSP has been set to follow the strategic planning guidelines of the Japanese Hoshin Kanri framework.

The Hoshin Kanri framework implies that the process of determining targets, the development of means to achieve the targets, and the deployment of both are crucial for success (Tennant & Roberts, 2001). This framework involves a “catchball” process that involves continuous communication and collaboration to ensure the development of appropriate targets and their deployment at all levels of the organization (Tennant & Roberts, 2001). Though the Government of Saskatchewan and its 28 school boards have not yet communicated a formalized plan of how this “catchball” process might look in relation to the ESSP in Saskatchewan, it has been made clear that school divisions are to be using the Hoshin Kanri model in creating and implementing both long term and short term district-level and school-level strategic plans for student learning (Government of Saskatchewan, 2013c). These plans are to be created using the Hoshin Kanri the A3 format.

Though the ESSP is in its early stages and it is yet to be seen how formally the province will measure, report, and hold school districts accountable for these goals, it is clear the Saskatchewan Government is moving toward a more formal approach to using student achievement data to drive decision making at both the provincial and school district level. The province’s *Vision 2020* goals and the ESSP have set the tone for expectations of data-driven decision making in Saskatchewan schools.

## **Critique of Data-Driven Decision Making Practices**

Though certain data-driven assessment practices have shown to yield strongly positive outcomes for student learning and achievement (Black & Wiliam, 2009; Hattie, 2009; King & Amon, 2008), often DDDM processes which rely most heavily on large-scale or standardized assessments have been critiqued in educational literature. At times data-driven practices have overwhelmed teachers with statistics and test scores to the point where the data is ineffectively used (Sharrat & Fullan, 2012). This is especially true when the task of finding standardized measures that accurately measure specific learning achievement is difficult at best (Mandinach & Honey, 2008). Some researchers have even attested that large-scale assessments, especially when considered to be high-stakes, can even have a negative impact on student learning and achievement (Kane, 2002; King & Amon, 2008). To follow is just a few examples of research that has cautioned against the over-use of large-scale and standardized assessments measures within a data-driven process.

Runté (1998) claimed that centralized examination systems have led to the “deskilling” of teachers as professionals, especially in the area of assessment. He theorized that this occurs in four ways. First, this deskilling occurs through centralization of evaluation design where the responsibility for evaluation design is removed from the classroom teacher and placed in the hands of test specialists belonging to a provincial ministry or commercial publisher. This leads to teachers no longer being expected to develop their own assessment materials which in turn leads to a reduction in the expectation of teacher preparation and responsibility when it comes to the assessment of their students. Second, deskilling occurs through the centralization of

curricular design, which enforces a more generalized curriculum with little room for teachers to exercise autonomous decisions regarding curriculum. This could lead to teachers being constrained to cover precise material rather than meeting the local needs of individual students or communities (Runté 1998).

Third, Runté (1998) cautioned that centralized testing practices remove the classroom teacher's monopoly over provincial standards and the professional discretion of a teacher to define knowledge and success for their students. Lastly, and a critique that has yet to impact teachers in Saskatchewan, Runté warned of the negative impacts centralized testing measures can cause when they are used to evaluate teachers. He argued that a strength of the teaching profession is a teacher's ability to continually self-assess their practices and make changes upon reflection. Although these self-assessments can often be subjective and not always satisfy the public, alternative accountability measures can also be inaccurate or used in inappropriate ways. Evaluating teachers through student achievement results on standardized measures undermines the professional managerial oversight that is already in place through school leaders and division-level supervisors.

Alfred Whitehead, an educational philosopher, saw this trend appearing as early as the 1960's. He cautioned that external standardized testing limited the freedom of teachers to adapt to the complex, situation-specific circumstances that occurred daily in the classroom and during student learning opportunities (Whitehead, 1967). He argued these assessment practices stifled creativity among classroom learning and led to the practice of teachers "teaching to the test" rather than creating opportunities for students to participate in adventurous exploration of different concepts. This teaching style could potentially lead to

strategies that focused on simple pattern recognition, narrow visions, and even student boredom in the classroom (Whitehead, 1967).

Lastly, Wang, Beckett and Brown (2006) proposed that an action research agenda in schools was favorable to standardized testing measures for a variety of reasons. They conducted an in-depth synthesis in critical review of school accountability reform and the assessment measures involved. They discussed Hartel's theory (1999) who described the practice of using standardized assessments to measure student learning as "unhumanistic and undermining of the daily, humanly sensitive interaction between teachers and their students in the complex social system of the classroom" (p. 310). Hartel's theory emphasized the key to solving a national education problem is to focus on the student-teacher relationship and the qualities of personalized educational experiences for children, a process that would be significantly hindered through standardized assessment practices.

The current data-driven context most western school districts find themselves in today leads us to the question: what does effective data-driven decision making look like at the school level? In the province of Saskatchewan we ask ourselves, what is the best process of measuring student achievement and informing teacher practice to increase achievement? What is expected of educational leaders to promote the use of DDDM in their schools and what is expected of teachers? And which practices will have a positive impact on student learning without hurting students in the process? It is here we look to the research to identify what works in creating a data-driven culture in schools and classrooms. This is examined through both formal procedures at the school-wide level and more formal pieces of student



achievement data, and a formative assessment approach which valued a multitude of different classroom-based assessment practices to move learning forward.

### **Data-driven Decision Making in Schools**

In education, data-driven decision making is a system of teaching and management that aims to put the best information possible into the hands of classroom teachers and administrators (McLeod, 2009). The purpose of this is to encourage educators and leaders to make informed decisions about instruction and create strategic plans that will lead to increased student achievement. Assessment data can help educators to clarify school-based concerns by replacing hunches with facts, can aid in assessing needs in order to effectively target services and resources, can assist in identifying the root causes of problems and possible solutions, and help educators engage in ongoing, proactive improvement in all aspects of a students' school experience (Crum, 2009). Schools that are data-driven and have created effective learning cultures with high expectations see greater improvements in student learning outcomes (Love, 2009; Scharratt & Fullan, 2012).

While many school districts look to formal instruments to measure student success and achievement, individual schools and classrooms are also supporting the use of formative assessment measures in the daily teaching practices of educators to move learning forward for their students, at times as a preferable method to a more standardized approach. Black and Wiliam (2009) claim student learning can be significantly impacted when an assessment functions formatively:

to the extent that evidence of student learning is elicited, interpreted, and used by teachers, learners, or their peers, to make decisions about the next steps in instruction that are likely to be better, or better founded, than the decisions they would have taken in the absence of the evidence that was elicited (p. 9).

Some argue that DDDM models that rely more heavily on standardized measures are missing the boat when it comes to holistically meeting the learning needs of students and that they can impede teacher professionalism to make the best instructional decisions for students.

There are many aspects that contribute to an effective school data culture and lead to better data-driven decision making practices among educators. Leadership practices and effective school-wide planning procedures are reviewed below as two contributors to the data-driven decision making process.

### **School Leadership and School-Wide Planning**

Kerr and his colleagues (2006) conducted a study with three urban school districts in the United States to determine which leadership practices lead to more effective school-wide data-driven decision making. Findings showed the following leadership practices lead to increased understanding among staff about expectations regarding DDDM and higher rates of effective data use among staff to drive decision-making:

- Placing high emphasis on assessment data analysis during staff professional development time;
- Providing technical assistance with data analysis and interpretation to staff;

- Ensuring staff had a thorough understanding of the school's strategic plan for improvement
- Setting expectation that the school's strategic plan is to align with classroom teaching practices;
- Promoting the use of other evidence in addition to standardized test scores;
- Collaborative, systematic review of student work and observations from classrooms (ie. learning walks);
- Placing importance on completing assessments at beginning, middle and end of year to track progress according to specific standards;
- Providing timely access to multiple sources of assessment data and ensuring this data is perceived as useful and valid to answer necessary questions regarding student improvement and achievement; And
- Allowing for flexibility to alter or change plans and instruction based on findings from the data.

Kensler, Reames, Murray and Patrick's study (2011) focused on the environmental factors and uses of staff learning time that effect data-driven culture in a school. The study followed two American high-school leadership teams, both in early stages of developing school-wide evidence-based practice, to determine levels of efficiency and efficacy involving staff data use. Results from the study found the development of "data rooms", professional development focused on individual data interpretation skills, collective dialogue skills, and systems thinking skills had a significant impact on developing a community of data-driven practices. Specifically:

- Creating a physical space to store assessment data and computer software for analysis in a central location and to set the expectation that data-use is important ;
- Organizing assessment data in a user-friendly manner that can be accessed by every staff member and ensuring the appropriate data is available when collaboratively planning for instruction or strategic planning; the data needs to answer the necessary questions to actually inform instruction;
- Spending time to build a “community of practice” through collaboration in discussing assessment data and the practical uses of this in the classroom to drive decision-making rather than focusing on only teaching the technical aspects of collecting and analysing data;
- Providing time for staff to discuss school and classroom data collaboratively, rather than using it in isolation only in their own classroom practices;
- Creating a culture of trust where staff can discuss results professionally and concretely;
- Seeking the expertise of professionals outside the school to aid in data analysis when appropriate; and
- Ensuring staff time with data is focused around a particular goal or question to efficiently use time

Crum (2009) made suggestions to administrators, based on her study of teacher data use, which adds to Kensler et. al’s (2011) findings. Results of her study found teachers often lack the skills necessary to fully understand the data-driven process and to engage in meaningful dialogue regarding DDDM with staff. She suggested:

- Spending time building foundational understandings of DDDM within a school staff during professional development and staff meeting time;
- Building the capacity of assessment literacy among staff;
- Ensuring teachers understand the expectations around how assessment is to be used and why they are being asked to collect it;
- Ensuring staff have a common understanding of key terms and concepts regarding DDDM needed to be successful in engaging in dialogue about DDDM; And
- Ensuring administrators have a strong understanding of the concepts and terms associated with DDDM to act as instructional leaders and models for staff

Crum's findings indicated that most schools and districts lack this uniform understanding among educators, and that educators lack this deeper understanding of the terms they often use in academic conversation. As a possible solution, Crum suggested school leadership teams should build a list of top assessment usage words that are commonly associated with the school or district data-based goals. This list should be used to survey staff on their knowledge of these terms and school teams should work together to build a uniform understanding. This uniform understanding needs to be in place before school staffs can have meaningful and deep conversations related to the data they collect and analyse.

Colburn and Talbert (2006) studied the conceptions of evidence use in school districts and found there were leadership actions that lead to developing greater buy-in among staff to use data-driven practices individually in their classrooms and collaboratively at the school level. Administrators who demonstrated the following had greater success:

- Providing data that was perceived as meaningful to both the school goals and educators' goals;
- Creating expectations of a data-driven process that was perceived by educators as enabling or improving their instructional practices rather than impeding
- Promoting strategies for DDDM that allow for and support access to different kinds of evidence for different purposes. Individuals in different roles have unique needs for different types of data and this allows educators to see the value in data; And
- Breaking through top-down culture where administration determines the goal and the data to be used by implementing data teams or pilot projects at the school level.

This evidence is furthered by Herman and Gribbons (2001) who spoke of findings from involvement in a longitudinal study in California regarding data use to support school inquiry and continuous improvement. They suggested that though strong technical skills and knowledge of how to use computer software and data bases are important to the overall success to a school's data culture, it is much more imperative that a staff first believe in a DDDM process and see it as valuable work to achieve the goal of increased student achievement. In addition, Herman and Gribbons (2001) make some suggestions for school-based administrators. Instead of expecting teaching staff to be experts in data analysis, experts should be made available. Teacher time does not need to be spent on this process. Also, administrators should be cautious of putting pressure on staff members working with data to improve both their instruction and student outcomes. At times researchers found data was altered or skewed to imply different results; this finding possibly suggests that sometimes teachers mistrust their administrators or mistrust how the data may be used to evaluate

teachers. If data is used to defend rather than inform instructional choices the data-driven process may be wasted.

Young (2006) examined teachers' use of data and how this use was affected by district and school level leadership. These findings were similar to Coburn and Talbert (2006) and Herman and Gribbons (2001). Results suggested that when principals and districts work together to pursue "mutually reinforcing agenda-setting activities" (p. 533) the effect is more administrator buy-in of data-driven decision making initiatives which in turn leads to higher levels of teacher buy-in. Young used the term, "loose coupling" to define a low level of conformity in aligning with district initiatives only at the bare minimum necessary rather than demonstrating total buy-in by jumping completely on board to align yourself with an initiative. This loose coupling can also occur within a school to describe a teacher's willingness to conform to a plan as proposed or introduced by his or her principal. Her study revealed that when teachers work together to analyse data collectively and to identify areas of need within their schools, it creates greater team cohesion toward a common goal which can lead to greater levels of buy-in from educators regarding data-based decision making.

From her findings, Young (2006) made suggestions and discussed implications for educational leaders which included engaging staff to create grade-level team norms, setting school and district-level agendas to clearly align and separate expectations and practices at each level, and offering functional supports so teachers can shape data practices of educators. The goal, Young suggested, is to set evolving agendas and structure team interactions with instructionally relevant activities, for example, the sharing of student work as evidence of report card performance levels, so teachers might practice data analysis while simultaneously

creating new collaborative norms (Young, 2006).

Agenda setting activities can set the stage for teachers to use data and establish rationale and expectations surrounding teachers' regular use of data to inform instruction. When these activities and norms are created at the school level and both administration and teachers see the value in working with the data as a relative piece of their practice, data-related activities grow more successful rather than just serving to comply with an expectation they feel they are mandated to do. Young suggested that it is at this point data-related activities move beyond compliance to actual engagement (Young, 2006).

Schools that are data-driven and hold a high standard for a culture of learning within the school have effective leaders who concentrate on this area to improve student learning outcomes. In data-driven schools, school leadership sets the tone and expectation for classroom assessment practices to inform effective teaching. Many of these leadership practices may help to support a teacher's use of data-driven decision making practices in their own classrooms or contribute to how they participate in school-wide strategic planning. There are many models in contemporary educational literature that outline what effective leadership should look like if a school is to be effective in creating a data-driven culture and a culture of learning. Two examples include the Interstate School Leaders Licensure Consortium (ISLLC) Standards for school administrators and Fullan and Scharrat's *14 Parameters* (2009; 2012) for effective schools.

**ISLLC Standards.** The ISLLC standards were created in 1996 and later revised in 2008 in order to be more applicable to a wider educational audience. These standards were adopted in the United States by the National Policy Board for Educational Administration (NPBEA) and



have been widely used as a model for state education leadership policies (The Council of Chief State School Offices, 2008). The ISLLC standards represent the latest set of high-level policy standards for educational leadership and provide guidance for state policy makers in their work to improve schools. These standards are based on ten years of research on educational leadership and reflect the administrative practices which yield the most effective results for raising student achievement.

The ISLLC standards include 6 key standards accompanied by functions of achieving each standard. Some of the standards and key functions pertain to the topic of data-driven decision making. One of these examples is the standard which indicates an educational leader should promote the success of every student by facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by all stakeholders (The Council of Chief State School Offices, 2008). Educators are expected to collaboratively develop and implement a shared vision and mission, collect and use data to identify goals, assess organizational effectiveness, and promote organizational learning and monitor and evaluate progress. Educational leaders are also expected under these standards to promote the success of every student through collecting and analyzing data in relation to student achievement goals (The Council of Chief State School Offices, 2008).

In addition to the ISLLC Standards, Sharratt and Fullan (2009, 2012) outline 14 parameters for effective schools. These parameters echo a similar philosophy and are discussed below.

**14 Parameters.** Scharratt and Fullan (2009; 2012) outlined *The 14 Parameters* as key areas that schools and districts must focus on to increase student achievement most effectively. The parameters relating to data-driven decision making include:

- Shared Beliefs and Understandings (Adapted from Hill & Crevola, 1999)
  - Each student can achieve high standards given the right time and the right support.
  - Each teacher can teach to high standards given the right assistance.
  - High expectations and early and ongoing intervention are essential.
  - Teachers and administrators need to be able to articulate what they do and why they teach the way they do.
- Embedded Literacy/Instructional Coaches
- Principal Leadership
- Early and Ongoing Intervention
- Case Management Approach
  - Data Walls
  - Case by Case Meetings
- Professional Learning at School Staff Meetings
- In-School Grade/Subject Meetings
- Centralized Resources
- Action Research/Collaborative Inquiry
- Shared Responsibility and Accountability (Scharratt & Fullan 2009; 2012)

In Scharratt and Fullan's initial studies (2012) leading to the selection of the *14 Parameters*, they learned successful schools had administrators and literacy coaches who understood and were committed to the above mentioned parameters. Subsequently, these leaders lived the shared beliefs and fully understood them, clearly understood they needed to attend to the components of these 14 parameters, self-evaluated in striving to align beliefs and understanding among leadership and took corresponding action with each other and teaches in an ongoing way, and did not let "distracters" divert their energy or focus and stayed the course toward improving specific student outcomes (Fullan & Sharratt, 2012)

### **Data-driven Decision Making at the Classroom Level for Responsive Instruction**

Leadership and school-wide practices that may contribute to strong data-driven decision making practices among educators was discussed in the previous section. These administrative and school wide supports, or lack thereof, may contribute to the perceptions and actual practices surrounding DDDM among classroom teachers. This section will review what is expected of educators at the classroom level regarding data-driven decision making to inform instruction and actual data-driven practices of classroom teachers found in the research.

In Saskatchewan, while teacher competency standards do exist, there is currently no formal set of standards that are recognized and enforced at the provincial level that hold educators accountable to a data-driven decision-making model at the time of this study. The provinces of Ontario and Alberta, which are perhaps most recognized in the country of Canada in terms of accountability and formalized assessment practices, do have formally recognized teaching standards, though they are not as specific as teaching standards in the United States.

In Canada, accountability for using data to inform instructional practices, and holding teachers accountable to the achievement results of their students is still considered low stakes.

**Ontario teaching standards.** The Ontario College of Teachers have published teaching standards that outline expectations for teachers in the province. The standards that are vaguely related to expectations regarding data-driven decision making practices are:

- Professional Knowledge
  - Members strive to be current in their professional knowledge and recognize its relationship to practice. They understand and reflect on student development, learning theory, pedagogy, curriculum, ethics, educational research and related policies and legislation to inform professional judgment in practice.
- Professional Practice
  - Members apply professional knowledge and experience to promote student learning. They use appropriate pedagogy, assessment and evaluation, resources and technology in planning for and responding to the needs of individual students and learning communities. Members refine their professional practice through ongoing inquiry, dialogue and reflection.
- Leadership in Learning Communities
  - Members promote and participate in the creation of collaborative, safe and supportive learning communities. They recognize their shared responsibilities and their leadership roles in order to facilitate student success
- Ongoing Professional Learning

- Members recognize that a commitment to ongoing professional learning is integral to effective practice and to student learning. Professional practice and self-directed learning are informed by experience, research, collaboration and knowledge (Ontario College of Teachers, 2014)

Surprisingly, though the province of Ontario has in recent years created the EQAO to monitor and report on standardized testing regimes, these teaching standards remain very broad and mention little to even imply accountability for teachers to use DDDM practices to inform instruction in their classrooms.

**Alberta teaching standards.** The government of Alberta outlines a Teaching Quality Standard by highlighting the applicable standards described in the *School Act* pertaining to teachers with permanent certification. The descriptions are lengthy, therefore a brief highlight of standards relating to assessment and accountability for DDDM practices will be provided below. Under section 3 pertaining to the knowledge, skills and attributes expected of teachers holding permanent certification:

- Teachers understand the subject disciplines they teach and know strategies and materials that are of assistance in furthering students' understanding
- Teachers monitor and assess students on an ongoing basis and modify their plans accordingly.
- Teachers gather and use information about students' learning needs and progress. They use a variety of diagnostic methods that include observing, analysing, and interpreting results of assessments. Teachers select a variety of classroom

assessment strategies and instruments to assess the full range of learning objectives; they differentiate between classroom and large-scale instruments such as provincial achievement tests, administer both and use the results for the ultimate benefit of the student. They record, interpret and use the results to modify their teaching practices.

The standards mentioned above imply an expectation for teachers to be using student assessment data to inform and plan for instruction. The expectation is set for teachers to be using a variety of classroom data in addition to provincially mandated standardized testing in an ongoing manner to monitor and assess student learning. Though the standards do not specifically state the level to which these standards will be evaluated and to which teachers will be held accountable to these standards, the tone is set for high expectations in the area of DDDM.

Teachers are responsible for ongoing assessment that takes place in multiple forms. They are responsible for knowing where each child is at in relation to rigorous learning goals. They are responsible for planning and altering instruction to meet the needs of their students based on what assessment data is showing. Educators are also responsible for choosing teaching strategies and altering lesson planning to enable students to meet learning outcomes. It is clear that we have moved toward a system where teachers are expected to collect, analyse, and reflect on multiple forms of data to inform instructional decisions.

While the above review of the literature focused primarily on more formal structures of analysing and interpreting large-scale or whole-school assessment measures, it is also important to review structures that lead to good DDDM practices at the classroom level. These

practices typically involve more formative measures of analysing classroom evidence of student learning to increase individual or whole-class student learning.

### **A Case for Formative Classroom-Based Assessment**

Large-scale or standardized assessment measures, though perhaps providing value at the district-level or school-wide level, has sometimes been critiqued as a “one shot” approach, that captures a limited picture of student learning, without providing teachers and students with valuable information of how to move learning forward (Worthen & Spandel, 1991; Yeh, 2005). In fact, some researchers have argued standardized testing or assessment which is only summative in nature can potentially have negative implications for students (Crooks, 1988; Tomlinson & Moon, 2013; Yeh, 2005). Formative assessment provides a complimentary approach to enhancing the data culture of a school district, school, or classroom.

### **Defining Formative Assessment**

Multiple researchers have set out to define formative assessment. Though definitions vary, many who have written on the topic agree that formative assessment differs from summative or large scale assessment in that it is an ongoing process that places emphasis on moving learning forward rather than grading or evaluating a product. The formative process can be described as assessment *for* learning rather than the assessment *of* learning (Stiggins, 2005).

Tomlinson and Moon (2013) described formative assessment as:

A process used to guide, mentor, direct, and encourage student growth...to consistently monitor students’ developing knowledge, understanding, and skill related to the topic at

hand in order to know how to proceed with instruction in a way that maximizes the opportunity for student growth and success with key content (p. 18).

This definition is furthered by Cowie and Bell (1999) who claimed formative assessment is “the process used by teachers and students to recognize and respond to student learning in order to enhance that learning, during the learning” (p.32), and Shepard and his colleagues (2005) who add formative assessment must be “carried out during the instructional process for the purpose of improving teaching or learning” (p. 275).

A good analogy of the interpretation of formative assessment was described by Robert Stake (n.d.) in Tomlinson & Moon (2013): if formative assessment takes place when a *cook* tastes the soup, then summative assessment takes place when the *guests* taste the soup and there is no time left for adjustment to the recipe. The latter is arguably another area where a data culture built only on standardized or large-scale measures may be lacking. Not only is formative assessment a good supplement to standardized measures in creating data-driven school culture, it is arguably one of the best strategies teachers can use in the classroom to enhance student achievement (Hattie, 2008; Black & William, 1998). Without it, instructional decisions derived from a data-driven process will fall short at the classroom level.

### **Importance of formative assessment in the classroom**

It is known that good quality teaching, backed with quality decision making from ongoing assessment can have a high impact on student learning. This practice matters even more than well written curriculum and can have a greater impact on student achievement than class sizes, or composition (Hattie, 2008; Wiliam, 2009). In fact, Wiliam (2009) attested that



minute-to-minute or day-to-day formative assessment likely has the greatest impact on student learning outcomes (Wiliam 2009). Teachers have often relied on hunches about how to best progress student learning. A hunch is a good starting place but without classroom data to support those hunches, teachers are sometimes wrong (Venables, 2014).

Fuchs and Fuchs (1986) synthesized findings from twenty-one different research studies which focused on the area of assessment. Findings showed regular weekly assessment with follow up teacher action produced substantial increases in student learning. These increases had almost three times greater impact when students were involved in visually tracking their own learning. Black, Harrison, Lee, Marshall, & Wiliam (2003) also conducted a study following 36 secondary teachers who were involved in professional development opportunities regarding formative assessment. Participants studied the research behind quality assessment practices, learned to implement their own formative assessment plans in the classroom, and were provided ongoing opportunity to discuss their assessment practices with experts. Findings showed that students in the participating teachers' classes made almost twice the academic progress as students whose teachers were not using the formative assessment methods.

Venables (2014) contended there is often an argument of "big data" versus little data when considering using standardized testing versus classroom-based or formative assessment data to best make instructional decisions for student learning. Big data seems to get all the media attention as it is a standardized measure to compare progress, sometimes between different schools or districts, however these forms of data do little to improve instruction, at least when used in isolation from day to day classroom-based assessment (Venables, 2014). Given the literature reviewed in this chapter, there is no doubt a case for the use of both big

and little data. But which data sets and assessment practices lead to best data driven decision making at the school and classroom level? What assessment practices and perceptions actually exist among elementary teachers and what can teachers and school leaders do to make the best informed decisions about moving student learning forward in their schools and classrooms?

### **Framework for Study**

In choosing a framework for this study, it was important to look to the literature to determine practices that were evidenced to lead to effective data cultures within a school. Fullan and Sharatt's *14 Parameters* (2009, 2012) and the ISLLC standards (Council of the Chief State School Officers, 2008) provided relevant models for what effective schools and effective school leadership looks like to improve student success. Many of these standards and parameters were applicable to the topic of DDDM. In addition, multiple other researchers indicated suggestions and observations from research reviewed above that add enrichment to the discussion of what improves DDDM in schools and classrooms. For this reason, a framework has been comprised that embodies the themes and research of the above reviewed literature. Table 2 below describes the eight indicators that will guide the proposed study.

Table 2

*Research Framework*

<u>Indicators</u>	<u>Descriptors</u>	<u>Research to Support</u>
1. Vision and goals that are shared and supported by all stakeholders	<ul style="list-style-type: none"> <li>• Vision and goal is aligned with district and government priorities</li> <li>• Teachers, students, administration, community members, support staff clearly understand the goals and believe in their value</li> <li>• Goal setting is collaborative, not top down</li> </ul>	Young (2006) Council of the Chief State School Officers (2008) Kensler et al. (2011) Coburn and Talbert (2006) Kerr et al. (2006) Fullan and Sharrat (2009)
2. Value placed on multiple forms of assessment	<ul style="list-style-type: none"> <li>• Educators feel value is placed not only on standardized measures, but classroom based data as well</li> <li>• One form of assessment is not relied upon in isolation</li> </ul>	Kerr et al. (2006) Coburn and Talbert (2006)
3. Provide Literacy experts and Coaches (or other experts related to school vision/goals)	<ul style="list-style-type: none"> <li>• Provide expert teachers or coaches to support the school goals and help build capacity of teachers in this area</li> <li>• To support teaching strategies that need improvement based on what the data shows</li> <li>• Provide experts in data analysis to guide process rather than expecting staff to become experts</li> </ul>	Fullan and Sharrat (2009) Herman and Gribbons (2001)
4. Early and ongoing intervention in response to data analysis	<ul style="list-style-type: none"> <li>• Solutions created for problems arising from the data</li> <li>• Interventions are happening early in response to data</li> <li>• Staff are allowed the flexibility to make changes and course corrections</li> </ul>	Fullan and Sharrat (2009) Kensler et al. (2011)
5. Professional Development and capacity building in response to data analysis	<ul style="list-style-type: none"> <li>• Staff meeting time used regularly to build staff capacity in DDDM</li> <li>• Capacity building in the area of assessment literacy and bringing in experts when capacity isn't there</li> <li>• Ensuring all stakeholders know the language and key terms to discuss data</li> <li>• Staff have a foundational knowledge of DDDM, and Administration have strong DDDM capacity</li> </ul>	Fullan and Sharrat (2009) Kerr et al. (2006) Kensler et al. (2011) Crum (2009) Council of the Chief State School Officers (2008)

6. Regular In-school, grade-alike or subject-alike meeting times	<ul style="list-style-type: none"> <li>• Collaborative review of student work and achievement data</li> <li>• Working together to analyze different types of data</li> <li>• Problems and solutions are discussed with other staff members not determined by single staff members in isolation</li> <li>• Relevant data is discussed often and ongoing throughout the year</li> </ul>	Fullan and Sharrat (2009) Kensler et al. (2011) Kerr et al. (2006) Young (2006)
7. Timely access to relevant data	<ul style="list-style-type: none"> <li>• Data is made available to staff in a timely manner so it can be useful to decision-making early on</li> <li>• Data organized in a manner in which it is easily accessible and understood</li> <li>• Minimizing data overload to provide only useful and applicable data</li> <li>• Recognizing that different stakeholders may require different data to inform practice</li> <li>• Multiple forms of applicable data recognized, not just standardized testing results</li> </ul>	Kerr et al. (2006) Kensler et al. (2011) Coburn and Talbert (2006) Fullan and Sharrat (2009)
8. Culture of Trust	<ul style="list-style-type: none"> <li>• Stakeholders know why the data is being collected and are comfortable with the plan for data use</li> <li>• Stakeholders feel comfortable to discuss data and practices honestly and openly without fear</li> <li>• Staff trust the DDDM process as a plan for increasing student success and are not fearful of repercussions of reporting their data</li> </ul>	Herman and Gribbons (2001) Kensler et al. (2011)

This framework guided the development of the online survey instrument and interpretation panel questions. Sharrat and Fullan's *14 Parameters* (2009) was used as a starting point for the conceptual framework of this study. This model already contained many indicators that were evidence-based, and proven from research to improve student learning, and presented a leadership-based approach to improving school-based data-driven decision making processes. The parameters that could have an impact on a school's data culture were

chosen and added to the framework for this study.

I felt there were other researchers however that added insight into areas the *14 Parameters* did not touch on. Specifically this model was missing the components of value needing to be placed on multiple forms of assessment, not just standardized measures, and the importance of building a culture of trust within a school data culture. For this reason, the work of Kerr (2006) and Coburn and Talbert (2006) were included, as well as other researchers who had similar findings to Sharrat and Fullan, but had additional insight from their research that would complement the *14 Parameters* model. This study examined the current perceptions of DDDM practices among teachers in a large urban school division and the support mechanisms and obstacles these teachers perceived to either enable or hinder them from using DDDM practices effectively.

### Chapter 3: Methodology and Method

This chapter outlines and describes the context of the study as well as the methodology used. The research design, methods of data collection and analysis, measures that improved reliability and trustworthiness, as well as ethical considerations will be discussed. The purpose of the study was to examine the current data culture in kindergarten to grade 8 classrooms from a large urban school division in Saskatchewan as well as the support mechanisms and obstacles educators experience in using data-driven decision-making methods.

#### Context of Study

The context of the study includes a description of the current educational context in the province of study and a description of the large urban school district where the study took place.

**Province.** It is important to note this study took place within the current context the province of Saskatchewan is now entering regarding data-driven decision-making. As of 2013 The Saskatchewan Ministry of Education outlined specific goals for increased student achievement accompanied by an Education Sector Strategic Plan (ESSP) which mandated a specific strategic planning formula for all Saskatchewan school districts. The Saskatchewan government recently outlined their *Vision 2020* goals to improve student academic achievement for all students and to improve graduation rates of First Nations and Metis students (Government of Saskatchewan, 2013). All publicly funded Saskatchewan school divisions are expected to create Continuous Improvement and Accountability plans, using a Hoshin Kanri model, around these goals in the areas of literacy and mathematics for each

school. This context has had impacted this study, as school-based strategic plans are expected to follow this new mandate, and the work of individual classroom teachers is impacted by these plans.

**School district.** This district has made a significant shift in recent years to adopt a more data-driven model. In this district, Data Teams have been implemented within elementary schools at two levels: 1) school-based, grade-alike or subject-alike *Collaborative Inquiry Teams* (CITs) and 2) school-based *Data Teams*. In addition, this district has also emphasized a distributed and collaborative leadership approach that encourages all staff to engage in student data for strategic planning purposes.

*Collaborative Inquiry Teams.* Through the Collaborative Inquiry Team process, which was implemented in this school district seven years ago at the time of study, teachers are supported in looking to their own school and classroom data to create an inquiry question for student achievement growth. This inquiry question will lead teachers to experiment with research-based instructional strategies to improve student achievement outcomes in a specific area of literacy. CIT groups are provided time to meet multiple times per year to engage with colleagues to review student data, discuss instructional practices, and collect and analyse student data to determine if their instructional decisions are leading to increased student success in literacy. CIT groups are given the opportunity to share their data-based and research-based learning with other CIT groups within their school as well as other CIT groups in the district within the school year.

*School-Based Data Teams.* Data teams were implemented in this district shortly following the implementation of CITs at the elementary level (pre-kindergarten to grade 8);

data teams are school-based teams comprised of teachers, administrators, Special Education Resource Teachers, literacy specialists within the building, and at times, other professional staff as appropriate. Professionals who are chosen by administration to be on the school-based Data Team are selected for a variety of reasons for example, their leadership skills, excellent teaching quality, interest in DDDM, or based on a specialist position they hold within the school that would contribute to building a data culture.

Data teams meet periodically throughout the school year to engage with school-based student achievement data to make informed decisions on strategic planning directions, professional development opportunities for staff, and to determine if the school's approach to meeting specific achievement goals is working or if changes need to be implemented. A couple of times per year, school-based data teams have the opportunity to come together with other data-teams in the district to receive professional development and direction from district-level administration.

All professional staff (teachers, Speech and Language Pathologists, counselors, literacy specialists etc) are expected by the district to be involved in a Collaborative Inquiry Team. Only select individuals on staff are invited (or volunteer) to be on the school-based Data Team as part of a leadership role within the school.

## **Research Design**

This study aimed to examine the DDDM practices of elementary teachers in one large urban school district in Saskatchewan. All kindergarten to grade 8 teachers in the district of study were given the opportunity to participate. The purpose of the study was to examine current teacher perceptions and practices regarding DDDM in an urban school district in



Saskatchewan. This study utilized a mixed-method explanatory case study approach.

**Mixed-method.** In choosing a research design it was important to choose a method appropriate for the study. (Wisker, 2007). Qualitative research is a means for exploring and understanding the meaning that individuals or groups ascribe to a problem while quantitative research is a means for testing objective theories by examining relationships among measurable variables (Creswell, 2009). At times, the research problems that exist in the social sciences field are complex, and the use of only qualitative or quantitative approaches can be inadequate in addressing these complexities (Creswell, 2009). For this reason, a mixed-methods case study approach was chosen to gain insight into deeper perspectives through multiple data points.

This study utilized a sequential explanatory strategy (Creswell, 2009) in attempts to obtain stronger and more reliable data that was better representative of the case being studied. The sequential explanatory strategy involved an initial phase of quantitative data collection and analysis followed by a second phase of qualitative data collection and analysis that built on the results of the initial data and was informed by the initial data set (Creswell, 2009). This process is further depicted in Figure 1. The research in this study consisted of three data sets collected in two phases: First, an online survey was conducted yielding both quantitative results in the form of Likert-scale responses and qualitative results in the form of open-ended questions. Second, a follow-up interpretation panel method was utilized for two purposes: first, to aid in the analysis of the survey responses to decrease bias, and second, to add to a second qualitative data set which would later undergo a thematic content analysis.

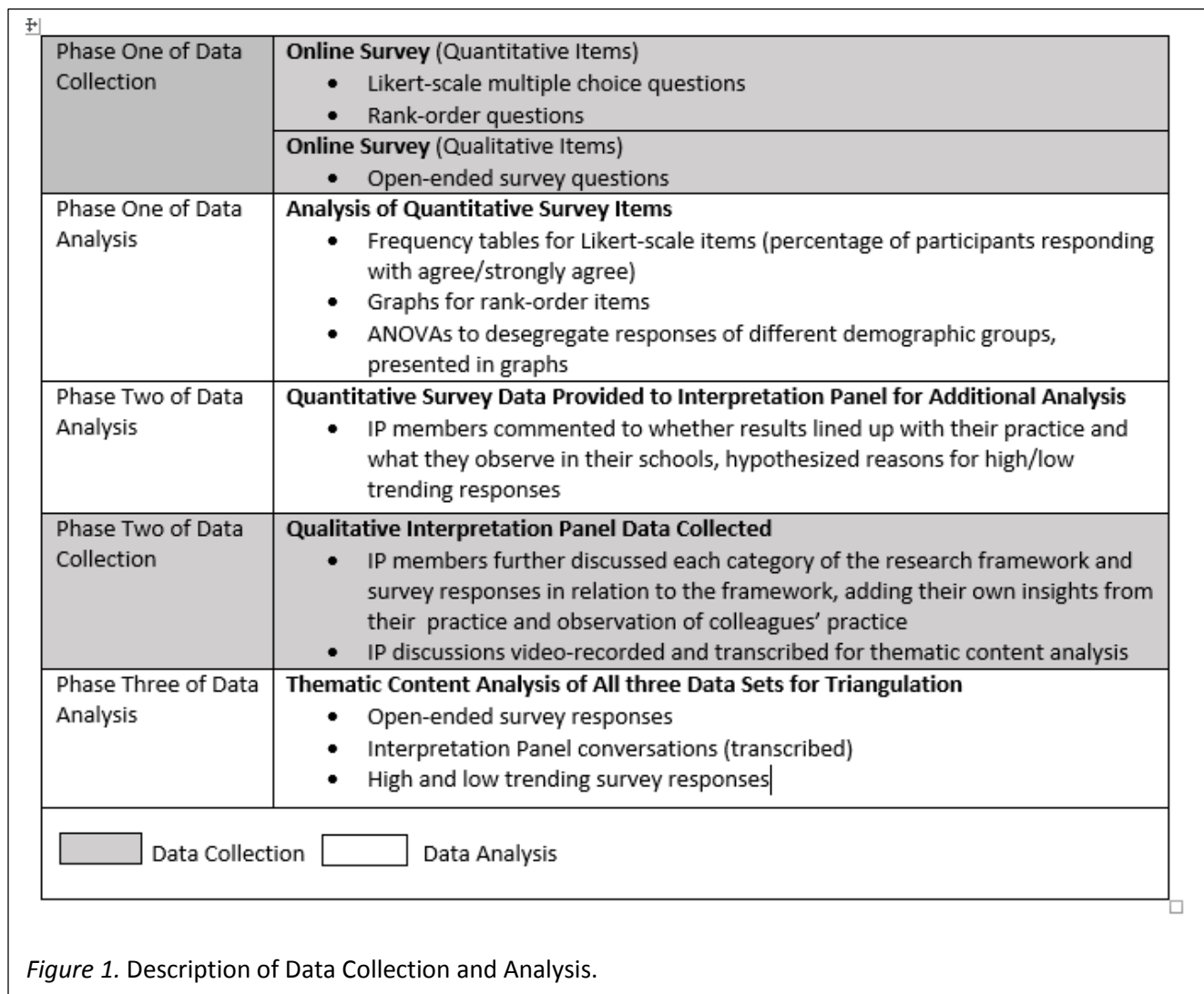


Figure 1. Description of Data Collection and Analysis.

The mixed-methods case study approach chosen for this study yielded both quantitative and qualitative data which led to a deeper understanding of the data practices of one school district in depth. An explanatory case study approach involving a survey of kindergarten to grade 8 teachers in the district of study (Dillman, et al., 2009) and follow up interpretation panel focus groups (Noonan, 2002) were used to answer the following research question in the school district of study:

1. What are the perceived mechanisms K-8 teachers believe either help or hinder data-driven decision making practices
  - a. in a teacher's own classroom?
  - b. as part of a school-wide professional community?

**Case Study.** Case study concentrates on experiential knowledge of the case, pays close attention to its contexts, and gains credibility by thoroughly triangulating the descriptions and interpretations throughout the period of study (Stake, 2005). For this study, the case focused on examining the data culture and practices of one urban school district in Saskatchewan, within the current context of a changing data-driven focus of the provincial ministry in Saskatchewan. Though the study included participants from multiple schools in this division I consider this to be a single case study, rather than a multi-site case study. This is due to the fact that the school division was studied as one singular case, within one singular context of division-level mandates regarding ministry-level expectations rather than specifically focusing on the differences between each individual school, or different groups of schools in this school division.

The explanatory case study design (Lodico, Spaulding & Voegtler, 2006) was chosen since data collection occurred in two phases, with quantitative data collected first through an online survey which underwent a series of statistical analysis before being presented to the interpretation panel. The interpretation panel not only helped to add additional analysis to the quantitative data set, but also contributed to a second qualitative data set which was later analysed alongside the open-ended qualitative survey results.

Credibility was gained through triangulating the descriptions and interpretations of the interpretation panel alongside the online survey results. Both of these methods are discussed in more detail in the following sections.

**Survey.** Lodico, Spaulding, and Voegtle (2006) suggest a survey instrument should not be developed until a thorough review of applicable literature is reviewed and key variables and themes can be identified to suggest sub questions and survey items. In addition, after the self-developed survey items are completed, the survey should undergo a pilot test to establish reliability and validity (Lodico et. al, 2006). After a review of the literature regarding effective data-driven decision-making practices the online survey instrument was constructed by the researcher using Fluid Surveys software. The survey was piloted by a small group of kindergarten to grade 8 teachers and administrators to receive feedback on the question items, contribute to clarifying unclear questions, and to ensure questions were actually measuring what the researcher intended. Changes were made to the survey tool following feedback from this pilot group.

*Tailored Design Method.* The *Tailored Design Method* (Dillman et. al, 2009) involved using multiple motivational features in compatible and mutually supportive ways to encourage high quantity and quality of responses. It was also designed with attempts to reduce four types of survey errors: coverage, sampling, nonresponse, and measurement. This method includes being mindful of the wording of questions and the placement of more challenging questions within the survey instrument to create an easy environment for survey respondents to feel comfortable in being honest and accurate with their responses (Dillman et. al, 2009). This method also involved setting the stage for the study in a cover letter that conveyed the

importance of survey responses to compel participants to respond because they feel their participation is important and will have a positive impact in some way (Dillman et. al, 2009). Participants were asked to respond to questions about their own professional practices and perceptions regarding a topic their school district has placed high importance on in recent years.

The purpose of the online survey was to determine the current DDDM practices that existed among kindergarten to grade 8 educators in one school division and to examine what teachers perceived to be the obstacles and support mechanisms in using data-driven decision-making methods in their classrooms and as part of larger school teams to achieve student success. All elementary teaching staff in the school district of study was given the opportunity to respond to the online survey. The survey was distributed to all elementary teaching staff via the school district's email service. Administrators were also invited to mention the survey to their teaching staff at a staff meeting to encourage them to look for it in their inboxes. At the conclusion of the online survey, respondents were provided with a link to direct them to another short survey if they wished to participate in a follow up interpretation panel. The purpose of the second survey was to ensure survey responses were kept separate from the respondents' names and demographic information required to form the interpretation panels to ensure anonymity.

***Interpretation panel.*** Interpretation panels are organized in the same way as a traditional focus group, the difference being they are used after some form of data has been collected and subjected to a preliminary analysis to provide some results for discussion (Noonan, 2002). The purpose of interpretation panels in this study was to aid in data analysis

after the survey data have been compiled and to gain deeper qualitative insight into the practices and perceptions regarding DDDM among teachers. The aim was to explore the data culture of one school division more deeply as well as to examine how teachers in this division have experienced various support mechanisms and obstacles that were either helping or hindering a school's ability to use a data-driven decision-making process in relation to the chosen framework (see Table 2 in Chapter 2).

Once respondents completed the survey and an initial compilation of the data was completed by the researcher, she selected volunteering teachers to serve on follow up interpretation panels (Noonan, 2002). Vaughn, Schumm, and Sinagub (1996) recommended any study using focus groups should include at least two sets of focus groups, and likely up to four to ensure new information becomes redundant to allow for themed coding while being mindful of time and resources (Vaughn, Schumm & Sinagub, 1996). Only 7 teachers were able to volunteer for the interpretation panel focus groups, which is a limitation of this study. These 7 teachers and administrators made up one interpretation panel.

One critique of qualitative research is the potential bias of interpretation and the analysis of results (Shenton, 2004). It was the intent of this researcher to minimize these drawbacks by involving participants in the interpretation process to view the data from a variety of angles. An Interpretation panel was used to help minimize researcher bias by including more people in the data analysis. Though participation was low, this researcher still feels the inclusion of the interpretation panel added to the overall quality of data analysis.

## **Data Collection Tools**

An online survey was created using the 8 indicators for quality data driven decision making practices in the framework of study as guidelines to answer the research questions. This protocol can be found in the appendix. The researcher examined to what extent these indicators were present in the current practices and perceptions of the teacher participants. The Tailored Design Method (Dillman et. al, 2009) was used to organize the questions in a manner which introduced less intimidating questions in the beginning to create a level of comfort in responding honestly.

Once data collection was complete from the online survey, results were disaggregated by participant demographic information (teaching assignment, years of experience, data team involvement, leadership experience) and organized for more easy discussion with the interpretation panel.

## **Data Analysis**

Fluid Survey data from 127 participants were analysed and 18 participants who did not provide responses beyond the demographic questions were removed from the analysis. Frequencies were conducted and reported for all Likert-scale items. Numerous one-way analysis of variances (ANOVAs) and *t*-tests were conducted on the measured variables, for example all Likert-scale items in the survey, to determine if there were significant differences between demographic groups listed above.

One-way ANOVAs were used to test for differences among at least three groups; therefore, this test was used for the first three demographic variables. *t*-tests were conducted

to determine if there were differences between groups for the leadership role demographic variable. This was appropriate because there were only two groups. A  $p$ -value of .05 was used as the criterion for determining statistical significance in all tests. IBM SPSS Statistics for Windows, Version 22.0 (2013) was used to conduct all statistical analyses. Visual representations were created using GraphPad Prism and mean values for each demographic group were plotted using asterisks to denote significant differences between groups.

Following this analysis, interpretation panel members were provided with simplified versions of these results using percentage-based frequency tables depicting the level of agreement participants expressed for each question under each subheading of the research framework. Graphs showing areas of significantly different responses between demographic groupings were also provided to interpretation panel members. The 1.5 hour interpretation panel focus group was video recorded and responses were transcribed to further assist with the analysis of the online survey results. Additional qualitative data gained from the interpretation panel underwent thematic content analysis to receive further, more in-depth insight into the research questions.

**Triangulation of the data sources.** A concurrent triangulation approach (Creswell, 2009) was used when considering if there was convergence or differences between the qualitative and quantitative data collected through the online survey tool and qualitative data collected through the interpretation panel. Results from the different data sets were analysed side by side, which is said to result in well-validated and substantiated findings and offset the weaknesses that qualitative or quantitative research bring when used in isolation (Creswell, 2009). To follow is a description of the full triangulation process.



First, quantitative survey data was organized into percentage-based frequency tables depicting the quantity of participants responding with “agree” or “strongly agree” on the Likert-scale items. High and low trends from the online survey data were identified through calculating frequency data that varied more than one standard deviation (90% confidence interval) from the mean level of agreement (participants responding “agree” or “strongly agree”) of all survey responses ( $m=80.2\%$ ). This resulted in survey responses with a level of agreement of 67.3% or lower and 93.0% and higher being identified. Graphs were created for the small number of rank-order survey items for easy analysis of the top and bottom three responses for each item. Graphs were also created to depict statistically significant differences (0.5) between the responses of different demographic groups responding to the survey.

Second, participant quotations from the transcribed interpretation panel were organized into common categories. Quotations that spoke to the same category were summed up into statements so the data set could be analysed more succinctly. Third, open-ended survey question responses were organized in the same way as the IP quotations. This created three data sets that were lastly analysed together to look for common and diverging themes. High and low trending survey responses, IP statements, and open-ended survey question statements were then analysed together as one data set. Each unique data-set however remained color-coded to allow for separate analysis if there were divergent findings. This larger data set was then separated into common themes, where 6 main themes were identified for further discussion.

## **Ethical Considerations**

Ethical guidelines pertaining to the anonymity of results as well as working in a collegial and respectful manner within the school division of study were observed. All kindergarten to grade 8 teachers in the district were given the option to respond to the online survey on a volunteer basis by invitation through school division email. Results were kept anonymous and confidential, and respondents' names were collected only on a volunteer basis if interested in being a part of the follow-up interpretation panels. These respondents' names were separated from their survey data with a separate survey link. Interpretation Panel discussions were videotaped to help with ease of transcribing for analysis and were only viewed by this researcher and her advisor.

The purpose of this study was not to evaluate individual schools, educators, or leaders, but rather to gain a full-scale perspective of the current data culture in this school district and to identify possible support mechanisms and obstacles in maintaining an effective data culture in this district. Participants were not put in a position where they were asked to either criticize or support their colleagues, employers, or school district.

## **Chapter 4: Presentation of Collected Data**

In this chapter I present the data collected through (i) the online survey, and (ii) the follow-up interpretation panel. Demographics of the participants are described and responses are organized as per the conceptual framework presented in Chapter 2. The timeline and setting of the study are also discussed. The data presentation is broken down into eight subcategories outlined by the conceptual framework:

1. Vision and goals that are shared and supported by all stakeholders
2. Value placed on multiple forms of assessment
3. Providing literacy experts and coaches (or other experts related to school vision/goals)
4. Early and ongoing intervention in response to data analysis
5. Professional development and capacity building of staff in response to data analysis
6. Regular in-school, grade-alike or subject-alike meeting times
7. Timely access to relevant data
8. Culture of trust

### **Setting**

#### **Context**

This study took place within a provincial and division-level context regarding data-driven decision making practices and expectations that I believe was influential to both the outcomes

of the survey and interpretation panel results. Both contexts were described at length in the first two chapters of this thesis.

### **Study Timeline**

After obtaining ethics approval from the University of Saskatchewan and permission to conduct research from the school division of study, the online survey was open for two weeks from the middle to end of June, 2015. To expedite analysis and to provide organized survey results to the interpretation panel in a timely manner, I hired the Social Science Research Lab at the University of Saskatchewan to complete frequency data tables and graphs. One follow-up interpretation panel took place on July 14, 2015 for 1.5 hours over one day. Transcripts of this interpretation panel conversation were transcribed within three days of the meeting for immediate additional analysis.

### **Participant Demographics**

This study included one pool of respondents with two different groups of participants:

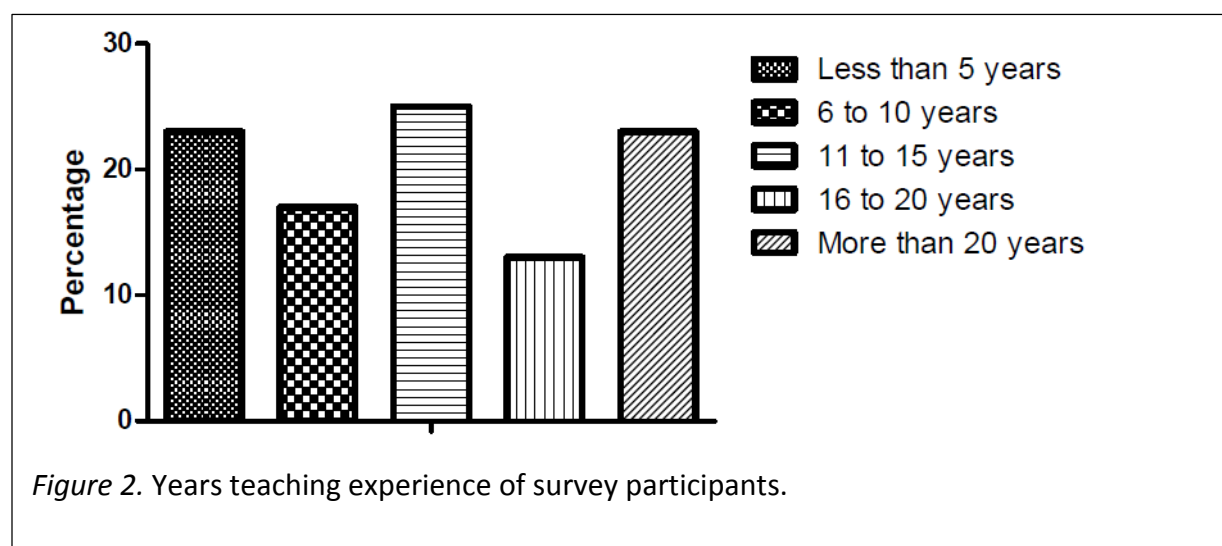
1. Participants involved in the online survey questionnaire
2. Participants involved in the follow-up interpretation panel

Participants completing the survey were provided the option of volunteering for the follow-up interpretation panel. Each participant group is described separately in the following sections.

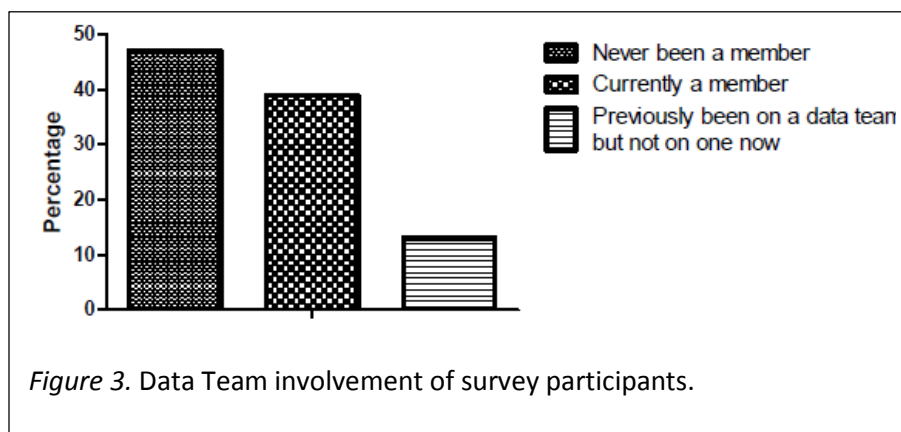
**Survey participants.** All elementary teachers serving students in kindergarten to grade 8 in the division of study were invited via school division email to participate in the online survey. Out of an approximate total of 1100 kindergarten to grade 8 teachers in this school

division, 127 participants responded to the survey. 110 participants completed the majority of the survey and these responses were involved in the data analysis. Participants were asked to answer demographic questions regarding (i) the length of their teaching experience, (ii) their involvement in school data teams, (iii) their involvement in a formal leadership role in the past five years, and (iv) their classroom and grade assignments.

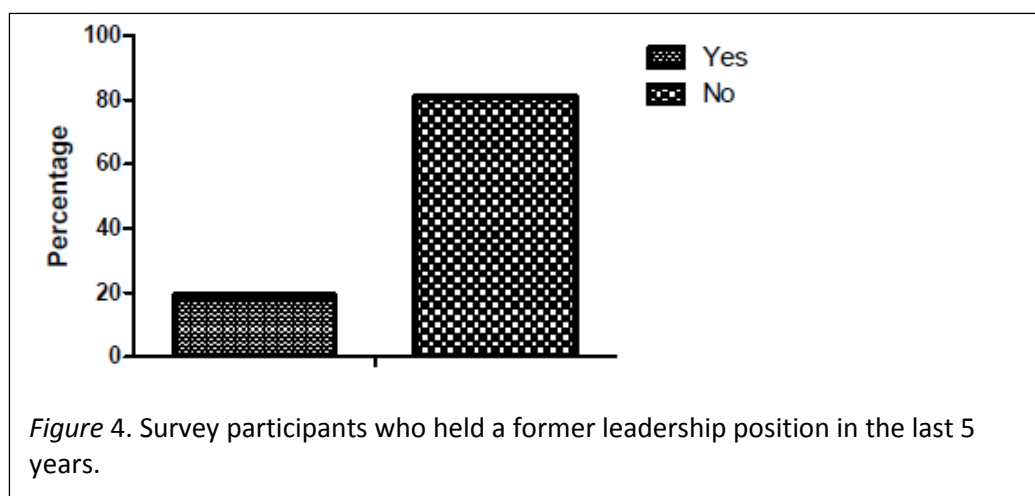
**Teaching experience.** Respondents were asked to describe the length of their teaching careers as less than two years, two to five years, six to ten years, eleven to fifteen years, sixteen to twenty years, and more than twenty years. Since there were few responses at the lower end, teachers responding in both the less than two years and two to five years categories were grouped together for analysis. 21.3% of respondents had taught for five years or less, 17.9% had taught for six to ten years, 32.9% had taught for 11-15 years, 12.0% for 16-20 years, and 24.8% for more than 20 years. The various levels of teaching experience can be seen in figure 2 below.



**Data team involvement.** Participants were asked to respond whether they were currently a member of their school's data team, had previously been a member, or had never been on a school data team. 47.9% reported never being a member of a school-based data team, 37.6% were currently members of their school's data team, and 14.5% had previously participated in a data team but were not current members of one now. Data team involvement can be viewed below in figure 3.



**Leadership experience.** Participants were asked if they had held a formal leadership position with the division of study in the last five years (administrator, consultant, coordinator, literacy teacher, or learning leader). 19.8% of respondents reported they had held a leadership position in the past five years and 80.2% reported they had not. Leadership experience of survey participants can be seen in figure 4 below.



**Teaching assignment.** Participants were given the option to identify as Kindergarten to 3 classroom teachers, grade 4-8 classroom teachers, English as an additional language (EAL) teachers, teacher librarians (TL), special education resource teachers (RT), or itinerant teachers (IT). ITs are teachers typically without a homeroom who provide preparation time release to a variety of classrooms, for example: French or Cree language teachers, physical education teachers, arts education teachers, or teachers who provide a variety of instruction to multiple different classrooms.

Since response rates were low for IT, EAL and TL groups, and all three of these groups are similar in that they are not assigned a specific homeroom and typically serve a wide range of students, these categories were merged together to form “other” during data analysis. 31% of respondents were K-3 classroom teachers, 31% were grade 4-8 teachers, 22.4% were special education resource teachers, and 15.5% were “other” (7.8% itinerant teachers, 3.4% EAL teachers, 4.3% teacher librarians).

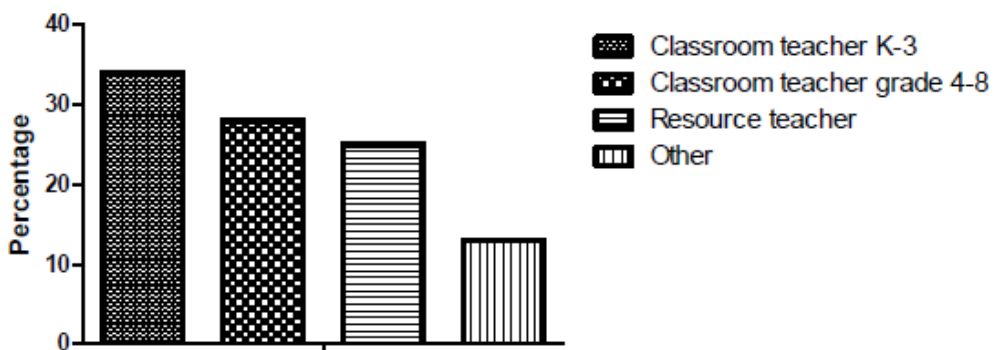


Figure 5. Current teaching assignments of survey participants.

**Interpretation panel participants.** At the conclusion of the online survey participants were given the option to provide contact information if they would like to volunteer as a follow-up interpretation panel (IP) member to participate further in this study. One IP meeting was held with a total of 7 educators. The IP meeting lasted 1.5 hours and consisted of two elementary principals, two elementary vice principals still holding a substantial teaching load, two classroom teachers teaching grade 4 and grade 7, and an English as an additional language (EAL) teacher. IP participants' teaching experience ranged from 11 years to 25+ years.

**Interpretation Panel format.** Interpretation panel members were provided with frequency data for each survey question, indicating the percentage of respondents that either agreed or strongly agreed with particular statements relating to school data cultures and perceptions of DDDM practices. IP members were also provided with graphs indicating response differences between the different demographic groups of survey participants (teaching assignment, years of experience, formal leadership experience, and experience on a school-based data team). When discussing differences in responses among demographic



groups, the IP was provided with graphs where responses differed at a statistically significant level (0.5).

## **Findings**

The following findings are discussed below with each section of the conceptual framework examined individually. The findings from the survey results and additional data contributed from the interpretation panel will each be described. Comprehensive frequency data is presented for all survey responses, including all demographic groupings without desegregation. Survey participants were asked to rate the extent to which they agreed with particular statements in response to the conceptual frame work by indicating (i) strongly agree, (ii) agree, (iii) disagree, or (iv) strongly disagree to each survey item. Though all results underwent analysis to determine if there were differences in responses between demographic groups, for more meaningful discussion only those responses where there was a statistically significant difference or a difference worthy of additional discussion are presented in graphic form for discussion in this chapter in addition to the graphs indicating total responses.

### **Section 1: Vision and goals are shared and supported by all**

Participants of the survey were asked about the extent to which they understood school goals, valued school-wide and school division goals for student learning, valued the assessment practices of their school division, and felt they played a meaningful role in the creation of these goals.

**Survey results.** Participants were asked the extent to which they agreed or disagreed with each statement described in Table 3 below.

Table 3

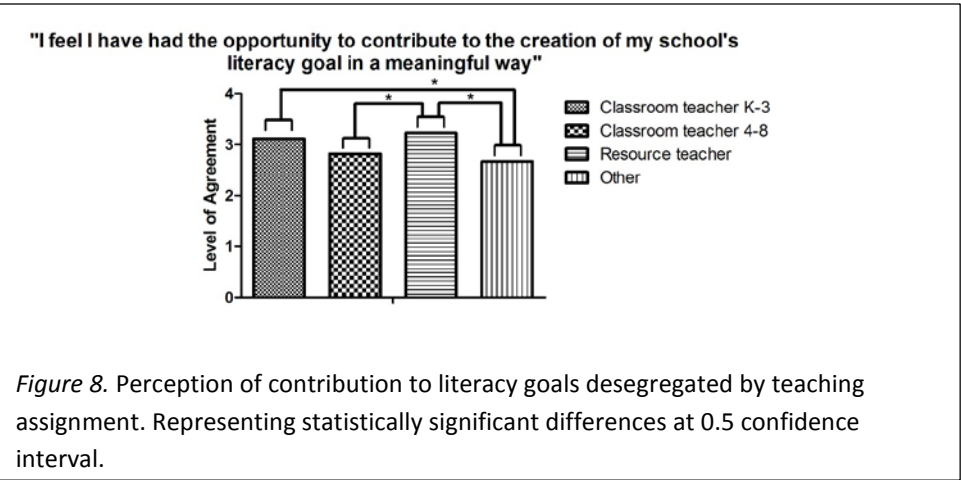
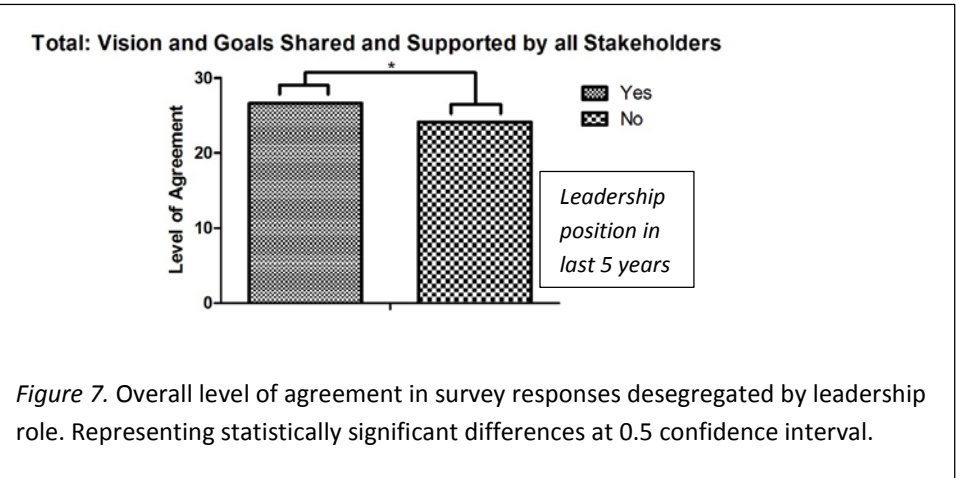
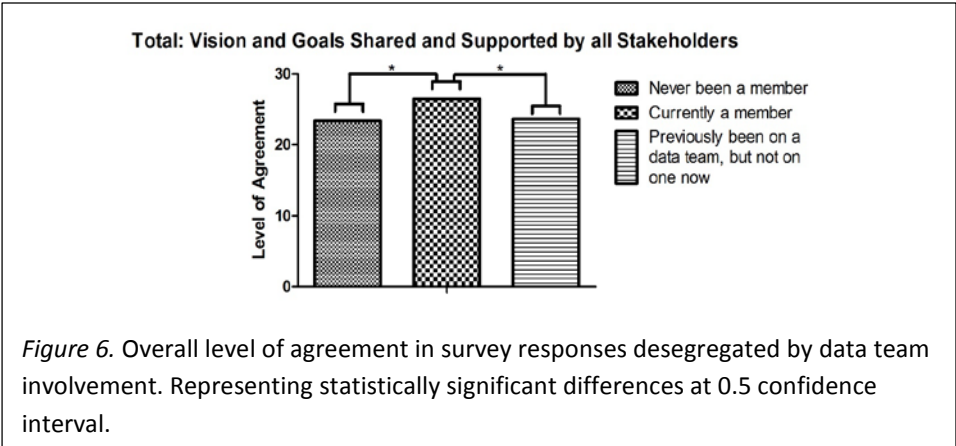
*Participants Responding with Agree/Strongly Agree*

"I clearly understand the expectations of my school's literacy goal"	<b>96.3 %</b>
"I clearly understand the expectations of my school's math goal"	<b>82.4 %</b>
"I value my school goals and feel they are a worthy focus"	<b>96.2 %</b>
"The goals of my school division are similar to goals I feel are important"	<b>87.6 %</b>
"Assessment practices valued in my SD are similar to the practices I value"	<b>76.1 %</b>
"I had opportunity to contribute meaningfully to my school's literacy goal"	<b>79.9 %</b>
"I had opportunity to contribute meaningfully to my school's math goal"	<b>64.2 %</b>
"Assessment measures of my CIT are valuable to my instruction"	<b>67.3 %</b>

Overall, participants indicated they clearly understood the literacy goals (96.3%) and math goals (82.4%) in their school and many reported they had meaningful opportunities to contribute to these literacy goals (79.9%). Participants agreed to a lesser extent in questions relating to mathematics, where 82.4% of respondents reported they clearly understood their school's mathematics goal and 64.2% reported feeling they meaningfully contributed to the creation of these goals in mathematics.

**Results by demographic group.** In this section of the framework, there were some variance in responses between different demographic groupings. As shown below in figures 6, 7, and 8, respondents who were active members of their school-based data teams, as well as respondents who have held a leadership position in this school division had more overall positive responses in comparison to other survey respondents. In addition, special education resource teachers reported feeling they had greater opportunity to contribute meaningfully to school goals, especially in the area of literacy, in comparison to homeroom K-8 teachers or

teachers in the “other” category. The variance in survey responses was discussed with the Interpretation Panel (IP) members and these data are described below.



**Results through the lens of the interpretation panel.** When presented with the frequency data tables and graphs for this section, the IP members thought it made sense there was a discrepancy between the responses pertaining to literacy versus those related to mathematics. Members unanimously agreed this was tied to both the school division's multi-year focus on literacy and what is only a new (1-2 years) division-wide push to focus on mathematics. Some members recognized mathematics as a newer focus of the division, while other members described it as an "afterthought" to literacy. Many members agreed the accessibility of assessment measures for reading made it easier for staff to collaborate towards a measurable literacy goal in comparison to mathematics goals. Division-wide and/or provincial mathematics assessments have not yet been developed for use, and teachers are currently left to select their own assessment measures.

As one IP member put it, "I think it's just the focus we have had in our division, people are more aware [of literacy expectations]... what has it been, ten years of Literacy for Life?" Another member stated:

Because we have been focusing on literacy for so long I feel we have better measures as well. We have data that is more accessible and it's easy to assess to see how students are doing in reading.... We don't have those same measures in math.... Math has been brand new this year.

It seemed staff members were very comfortable with the idea of working toward a common school and division literacy goal in comparison to similar expectations in mathematics, which is

a newer topic of focus in the division of study. These comments regarding school staffs not being used to using classroom data when collaborating around a focus or a goal is an interesting one, and perhaps speaks to the data culture in this school division.

IP members were then asked to comment on the discrepancy between resource teachers, teachers with formal leadership experience, and data team members versus classroom teachers and itinerant teachers, as the former groups responded more often with “agree” or “strongly agree” in this section. IP members felt this made sense and described a number of reasons why, including:

- “Your data team is really set up to do a lot of work around the school goal, and your data team is focused on literacy. We always questioned that because our math action people are not on our data team.”
- “For sure people would own it more if they were involved in data team and it comes down to time. Those people have the time.... Your data team has half days to really go through the process, they would be more invested.”
- “Data teams and school leadership get to hear things first-hand too. It’s second- and third-hand information by the time it gets down to teachers.”
- “Just being a part of the initial conversation around where we are going [as a division], what are we doing. When you’re a classroom teacher, you’re not part of that piece. You would feel less connected to it.”

IP members were also asked about the process of collaborating and what the creation of school goals looked like in each of their schools. In almost every case, IP members described

staffs that were engaged in some way in an effort to come together as a group, look at some form of data, and discuss next steps toward a school-wide focus in literacy and mathematics. Levels of whole-staff involvement ranged from groups of grade-alike teachers meeting to discuss school-assessment data then returning to a larger group to contribute their thoughts to whole-school, multi-day “data digs” where multiple forms of data were discussed widely as an entire staff and every staff member was involved in contributing to the creation of and commitment to the school goals. In one way or another, it was very common for staff members to feel like they had a collaborative part in this process and had some level of buy-in and feeling of commitment to this process.

## **Section 2: Culture of Trust**

Survey participants were asked to what extent they trust the data-driven processes in their schools and school division, and their comfort in discussing data-driven processes openly and honestly without fear it would negatively impact their working environments.

**Survey results.** Overall, participants reported they felt comfortable openly discussing their own assessment practices with both colleagues and administrators at their school. 85.4% of participants reported they felt comfortable discussing their assessment practices without judgement or repercussion, and 88.3% reported feeling comfortable discussing these practices with administrators at their school. Most respondents were also supportive of how assessment is used and collected at the school level (80.6%).

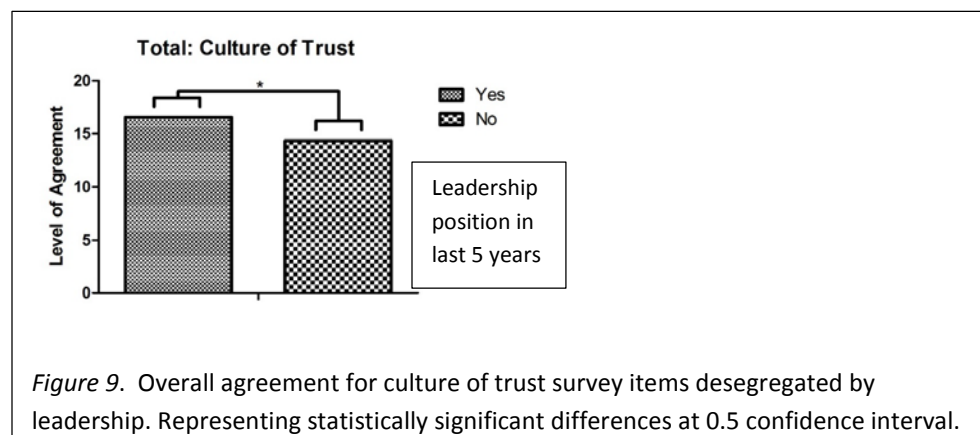
Fewer respondents, however, agreed or strongly agreed when questioning shifted to practices further removed from the classroom or school level. 60.2% of participants agreed or strongly agreed they understood school division data-collection practices and how this data was

to be used, and 57.6% of participants indicated they supported the ways in which their school division collects and uses student assessment data. The extent to which participants responded with “agree” or “strongly” agree to each survey item can be seen in table 4 below.

Table 4  
*Participants Responding with Agree/Strongly Agree*

“When asked by my school div. to submit data I understand why/how it will be used”	<b>60.2%</b>
“I feel comfortable discussing my assessment practices with admin”	<b>88.3%</b>
“I can discuss my assessment practices at school without judgment or repercussion”	<b>85.4%</b>
“I am supportive of how my school collects/uses assessment data”	<b>80.6%</b>
“I am supportive of how my school div. collects/uses assessment data”	<b>57.6%</b>

**Results by demographic group.** Similar to the previous framework section discussed above, more supportive responses indicating “agree” or “strongly agree” were reported from members of school data teams and teachers holding a formal leadership position, as well as resource teachers. These differences can be viewed in figures 9, 10, and 11 below and were discussed in more detail through the interpretation panel as well.



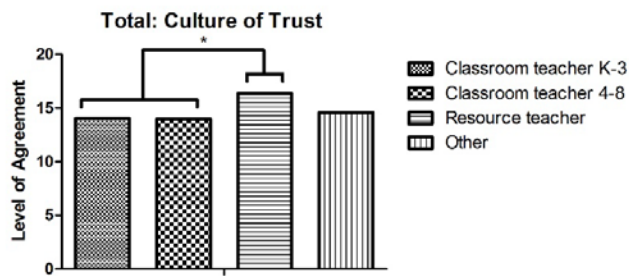


Figure 10. Overall levels of agreement for culture of trust survey items desegregated by teaching assignment. Representing statistically significant differences at 0.5 confidence interval.

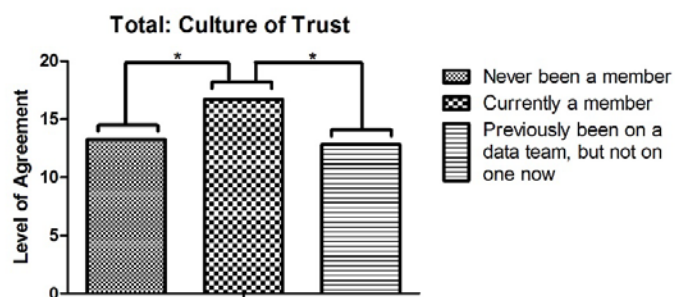


Figure 11. Overall levels of agreement for culture of trust survey items desegregated by data team involvement. Representing statistically significant differences at 0.5 confidence interval.

**Results through the lens of the interpretation panel.** Interpretation panel participants were asked to comment on the differing levels of agreement from survey participants between school level versus division-wide trust and the practices that could potentially strengthen staff trust of school division data-driven decision-making practices.

IP members were surprised with the lower responses of 57-60% agreeing or strongly agreeing they trusted school division data-collection processes. Members discussed how staff as a whole may not really understand the process and why they are being asked to collect various types of data. For example, one vice principal noted, “I think there is some uncertainty.... ‘What is the division collecting this data for? What is their goal for seeing it? I’m



not sure I know what they're doing with it. Is it helping them to decide where we need coordinators?" Another member agreed and added, "In my school I think we got a literacy teacher because of what the data was saying; we got extra support. I don't know if everyone saw that or understood why that happened." All members agreed they felt this information needed to be better shared; staff want to know why the data is being collected, what it is being used for, and why they should care.

IP members also connected to earlier conversations regarding communication:

I think if you're hearing it in administrator meetings or data team meetings more often and having the chance to hear it as a full group... I think it shows perhaps a deficiency where our classroom teachers don't have the regular opportunity to network and receive the messages of data collection and the usage of this data at the division level.

Another member added this issue may be more systemic, and reaching back a number of years to when data-driven decision-making practices in the area of literacy were first rolled out in this division a number of years ago.

IP members also noted the timelines of data collection practices imposed at the division or ministry level may have played a factor in the less supportive responses in this section. For example:

so often times the [benchmark reading assessment] scores are used to get funding from the ministry and different things. It's hugely critical and it impacts all of us and it's a good thing. We should be happy about that. On the other hand sometimes the ministry's deadline isn't the same as a classroom teacher's deadline... and [it] is not of

best use to the teacher. If we are wanting our teachers to use the data for formative assessment, and you're needing it for downtown.... It does make it hard when those timelines don't quite fit together.

In addition, another member suggested the timeliness of the data does not always make sense to teachers, which could lead to mistrust of the process: "some [large-scale] data too, if it doesn't get back to the staff right away, then they don't know why it was collected. I know some staffs share these with their schools and some don't. I like when I actually get results back and can look for trends." Much of the conversation continued to focus on timelines, and how this did not fit with best teaching practice such as January timelines interfering with students just coming back from Christmas holidays and not being in the best space for testing. Often IP members spoke of policies and timelines that did not align with "what a teacher would do" but rather being "simply for central office".

Interestingly, the language used by IP members in this section seemed cold and disconnected, an "us versus them" approach when speaking of teacher practices versus division or ministry-level expectations. One member explained her feelings on the discrepancy: "It's one thing to have the assessment, it's another thing to have to teach daily. I think they are sending a little message with their 60%." Language such as "we," "us," "our team," and "our division" were absent from conversation. Instead, vocabulary such as "the division," "downtown," "they," and "the ministry" was used. This language varied greatly in comparison to school-level conversation in sections to follow where IP members inserted themselves into the descriptions by saying "at my school" or "what we've done."

When asked what school divisions could do at a system level to improve a culture of

trust, IP members communicated a variety of ideas. Areas they felt needed to be addressed included: better timing of assessments, a better understanding at the division level of the time it takes for teachers to complete assessments, providing supports to allow teachers adequate time to complete required assessments, and allowing teachers to have a voice in choosing the assessments that are actually beneficial in informing their classroom instructional practices.

### **Section 3: Regular in-school grade-alike or subject-alike meeting times**

Participants were asked questions regarding the amount of time provided to them to meet in grade-alike and/or subject-alike groupings to discuss student assessment data and instructional plans in response to the data. The aim for this section was to examine if teachers perceived this to be a sufficient amount of time and if this time was used effectively enough in their buildings to be valued by staff.

**Survey results.** Responses in this section were significantly less supportive (fewer participants responding “agree” or “strongly agree”) in comparison to other sections of the survey. Forty-eight percent of participants responded there was sufficient amount of time provided to them to discuss assessment and data with colleagues, though this division recommends staff meeting time be used for grade-alike or subject-alike meetings once per month for this purpose. Sixty-two percent of participants responded their school meets at least every 2-3 months to discuss student assessment data as a large group or whole staff. A higher 81% of participants responded they discuss instructional planning or responsive instruction with grade-alike or subject-alike colleagues at least every 2-3 months during collaborative inquiry team (CIT) meeting times, staff meetings, or professional development days, with 72% of

participants feeling they play an active role in contributing to the data-driven work in their school.

Table 5	
<i>Participants Responding with Agree/Strongly Agree</i>	
"I'm provided sufficient time to discuss assessment data with colleagues"	<b>48 %</b>
"How often do you have time to discuss instructional plans in response to assessment with grade-alike or subject-alike colleagues (CIT, staff meeting, PD)"	<b>81 % *</b> (at least every 2-3 months)
"How often is time set aside to discuss student assessment as a whole staff or large group in your school"	<b>61.6 %*</b> (at least every 2-3 months)
"I feel I play an active role in contributing to data-driven work at my school"	<b>72 %</b>

**Results through the lens of the interpretation panel.** During the IP, members discussed what grade-alike or subject-alike meeting times and large group meeting times looked like in their schools, as well as ideas for how this time could be used most effectively for data-driven work.

IP participants mentioned an appreciation for the half-day release times the school division provided for teachers to meet in their grade-alike or subject-alike collaborative inquiry teams (CITs). Time provided for this in the division of study has ranged from 2-3 half days of release time per year for teachers to meet within school hours to 1-2 partial days in a school year to meet in large groups either division-wide or with other schools over the past five or so years. Members also agreed it has been positive to have division-wide scheduled staff meeting times allocated for teachers to meet with their CIT groups, though there was discussion of how this time could be used more effectively. One member explained:

An interesting piece is the structure of how a CIT is organized, like developing norms rather than just going as a group. If you just get going sometimes things are lost. [Last

year our CIT group] had commitments we made to each other. This wasn't done by admin, it was done by us. This year we didn't do that and that got lost... making sure you have formal rules, norms, and roles are really important to make the time worthwhile.

When asked, all members of the IP agreed the vast majority of time spent working collaboratively with staff, to be responsive to student assessment data, was done during formal staff meeting times or professional development days. One participant wanted to make sure the informal work, or the work done outside these formal staff meeting and professional development times, was not forgotten: "there are also some committees that are doing some significant amount of work outside school hours to get together and do this work, I think we need to honour that as well." This same IP member mentioned during discussion in another section that those informal conversations between colleagues, after school or in the hallway, or those times a veteran teacher is mentoring a newer teacher, that those conversations also contribute to a data-driven culture and may not have been represented in the survey responses.

#### **Section 4: Timely access to relevant data**

Here participants were asked whether their assessment data was organized in a manner so it could be easily accessed when needed for instructional planning, if they have unrestricted access to the assessment results they need to inform their instructional programming, and if results of large-scale assessments provided through the school division or provincial ministry were made available to them in a timely enough manner to be useful.

**Survey results.** In comparison to other sections of the framework, participants

responded much more often with “agree” or “strongly agree” in most of this section, stating their data was organized to be easily accessible to use as needed (89.9%) and that they had unrestricted access to all the data they needed to inform instructional decision-making (88.7%). 76.4% of teachers indicated that large-scale assessment results were made available to them in a timely manner. Interpretation panel discussion added to this response, indicating that perhaps only a couple of the large-scale assessments had issues with the timing of data availability, and this survey did not break the questions down well enough to accurately respond to the timeliness of each individual assessment. Survey results in this section can be viewed in Table 6 below.

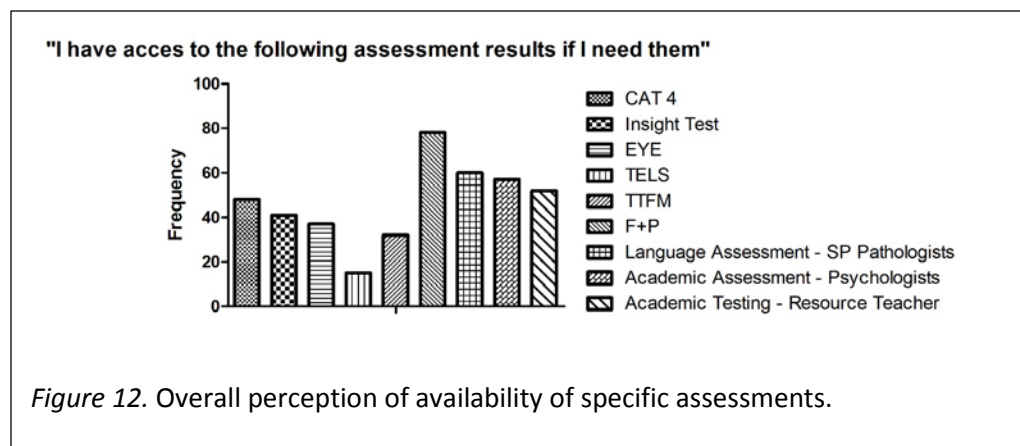
Table 6	
<i>Participants Responding with Agree/Strongly Agree</i>	
“My assessment data is organized to be easily used when I need it”	<b>89.9 %</b>
“I have easy unrestricted access to the assessment data I need”	<b>88.7 %</b>
“large scale assessment results are available to me in a timely manner”	<b>76.4 %</b>

There was not much variance in responses between the different demographic groupings in this section, with the exception of resource teachers who reported slightly higher agreement in this section and itinerant teachers reporting slightly lower agreement. The interpretation panel did not touch on this, but it could be due to resource teachers, along with administrators, often being the case managers for school-wide assessment results and seeing the results in detail before classroom teachers or whole staffs have access to them. Itinerant teachers often teach a variety of different grade levels with no specific homeroom assignment, often are not responsible for teaching core subject areas, and may rely less on large-scale assessment results to inform their instruction. Results can also be seen below in figure 10,

where responses were assessment-specific.

These results should be interpreted with caution, because only some teachers need to have access to specific results. For example, the Tell Them from Me assessment is only for upper-level students in grades 6 to 8, with the option for students as young as grade four to participate. Canadian Achievement Testing (CAT) and Insight cognitive testing are only available to grade 4 and 8 students in elementary schools and the Treaty Essential Learning Survey (TELS) is only administered to grade seven students. Early Years Evaluations (EYE) are used in pre-kindergarten and kindergarten. While the Fountas and Pinnell Benchmark Reading Assessment (F+P) is mandated in this division to be administered three times per year with students in grades one to three, some schools opt to complete this assessment with all students in kindergarten to grade 8.

Language assessments through a speech and language pathologist, academic and cognitive testing through an educational psychologist, and academic testing administered by a special education resource teacher would be available for specific students, typically those who struggle significantly academically or who are significantly gifted, in all grades pre-kindergarten to grade 8.



**Results through the lens of the interpretation panel.** The interpretation panel shed some light on the different individual assessments and how relevant they are to the work of teachers at the classroom level. Members were asked what makes a specific type of assessment useful to instructional planning or school-wide planning and which types of assessments were most relevant to teachers.

It was clear from IP discussion that assessments perceived as “closer to the classroom”—in terms of being connected to the day-to-day learning students experience, being administered directly by teachers in a manner that made sense, and fitting with classroom learning—were valued as more relevant and useful to teachers in comparison to assessments teachers perceived as being administered “for the division” or “for the ministry.” Whether or not the intent of the assessment had potential for formative, responsive instruction at the classroom or school-wide level, there seemed to be a discrepancy in the language used when describing these assessments as “the assessments I would use” versus the assessments that were mandated without teacher or school-level choice.

Certain types of assessment, particularly where the classroom teacher was administering them one-to-one with a student, were deemed more reliable. Also, assessments that allowed access to the data the moment the assessment was complete were valued more highly than larger-scale standardized tests that were administered as a whole class and were scored at a later date. IP members spoke of the relevance of these assessments that were considered “closer to the classroom level”; for example:



- “If I’m a teacher doing alphabet testing or F+P I have that data right away and I can use it. CAT, Insight, the ones you have to send off, the window is months before you get it back. The teacher-administered ones are fantastic.... I think there’s a separation when we talk about these assessments and how useful teachers are finding them.”
- “I like the math diagnostics. I’m not a fan of giving the whole thing at the beginning of the year, it’s too much, but in terms of guiding my teaching it’s helped me. I did like giving it before a unit to see where a student was or to help me plan for doing some responsive stations.”
- “There’s lots of others too that teachers use in pockets: like Jerry Johns, Words Their Way is also very common right now. Many teachers have their own specific tools they’re using to sort of check in to see how kids are doing.”

When asked what makes an assessment relevant versus less relevant, teachers responded they valued assessments they had chosen themselves because it was based on what students were currently learning at that point in time. Also, assessments that focused on formatively tracking longitudinal progress toward school-based goals were valued highly as well, such as the Fountas and Pinnell assessment.

### **Section 5: Early and ongoing intervention in response to assessment**

Participants were asked to respond to the extent to which assessment is used to meet differentiated student learning needs, whether interventions for students were occurring in a timely manner, and decisions regarding which students will receive additional supports were informed, flexible, and responsive to student need.

**Survey results.** There were high levels of participants indicating “agree” or “strongly agree” in this category with one exception. Respondents agreed they used multiple forms of assessment to plan for student needs (97.9%) but, interestingly, a lower 80.6% agreed their colleagues did the same. Most survey participants agreed that plans for intervention and student programming occurred in a timely manner in their school (80.6%) and felt students were chosen to receive supports in an informed way (84.2%) and that supports and programming changed throughout the year based on student need (82.4%). 73.3% of participants agreed intervention plans at their school were fluid, responsive, and flexible which was the lowest level of agreement for this category. These responses can be viewed in table 7 below.

Table 7

*Participants Responding with Agree/Strongly Agree*

“I use multiple forms of assessment to plan for student needs”	<b>97.9%</b>
“I feel majority of K-8 teachers use multiple Forms of assessment to plan for student needs”	<b>80.6%</b>
“intervention plans/programming in my school occur early and in timely manner”	<b>80.6%</b>
“intervention plans are fluid, responsive, and flexible”	<b>73.3%</b>
“I feel confident students are chosen to receive supports in an informed way”	<b>84.2%</b>
“supports/student programming change throughout the year based on need”	<b>82.4%</b>

**Results through the lens of the interpretation panel.** When asked how intervention planning in response to data occurs in each of their schools, IP members had various responses but a similar common theme: there was a group of people assigned to the task of looking at student assessment data and having conversations to determine which students would benefit from intervention or alternate programming. Typically these conversations targeted students

who were struggling academically, and the data set relied on most heavily were a student's Fountas and Pinnell reading benchmark score. Some IP members talked of a more formal process while others spoke of informal, collegial conversations without a formalized structure for looking at data. Some examples that outline this variance include:

- “When you have a strong resource teacher and administrator it's really helpful...sometimes you don't have enough time [as a classroom teacher] to figure out where they need to be or what program and I think resource teachers can play a key role.”
- “Our school is so literacy focused. Almost everything comes down to F+P. That's who gets the tutors, that's who gets the FNIM [First Nations, Inuit and Métis] supports, LLI [Leveled Literacy Intervention], Roadways [reading intervention]. It comes down to a team sitting down with the data to determine.”
- “It would be administration and resource [teachers] primarily...We would have EAL [English as an Additional Language teachers] at the table too.”
- “I know in my first couple years in this school quite often the resource teacher would pop in and say, ‘Hey, I'm taking so and so and we're working on this,’ and that process wasn't transparent. We really flipped a couple of years ago to a team approach where we lock ourselves in a room... we create groupings and figure out what interventions to use... I would love to do this as a whole staff but we just can't.”
- “We look at different class lists to determine tier 1, tier 2 and tier 3 supports. We also have a learning leader at our school so we bring her into that.”

The process of fluidity and transiency was also discussed, as well as how students arriving new to a school might be flagged for intervention supports, or how this process might be fluid throughout the year to allow interventions to shift with changing needs. Again, these processes were more formal in some schools and less formal in others:

- “In my school it’s usually red-flagged by the resource teacher. And sometimes you can tell if the cumulative folder is thicker [she laughs].”
- “Sometimes, too, in a school where interventions are ongoing, it’s those hallway conversations, or those supervision conversations [at recess] where you say ‘you know, so and so isn’t doing well’ and then the resource teacher looks into it.”
- “We do this process [of meeting as a team to discuss students needing interventions] 2-3 times per year.”

## **Section 6: Professional development and capacity building**

In this section, participants responded to what extent they felt prepared in using data-driven practices to inform their instructional decision-making, to what extent they felt capable in data-related discussions when collaborating with colleagues or as a whole staff, and if they felt they had received the training necessary to contribute meaningfully to data-driven practices and using student assessment to inform teaching.

**Survey Results.** As seen in table 8 below, the majority of participants agreed or strongly agreed they feel capable using assessment to inform instructional decision making (97.9%). 84% also reported they understand the language and terminology used to discuss DDDM practices when among colleagues. Despite these perceptions, however, participants did not agree as

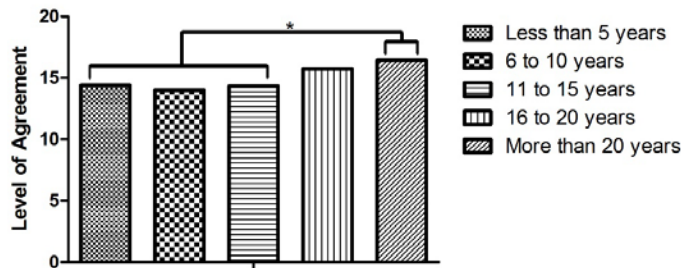
strongly that they had the adequate training necessary to acquire these skills. 66.2% agreed or strongly agreed they had opportunities available to receive professional development in using assessment to inform instruction, 67% responded they had received the necessary professional development to know which types of assessments would be most useful to their practice, and 69.1% agreed they had received the necessary professional development for student assessment to inform instructional decision making.

**Table 8**  
*Participants Responding with Agree/Strongly Agree*

"I feel capable using assessment to inform instructional decision-making"	<b>97.9%</b>
"I have opportunity to receive PD in using assessment to inform instruction if I need"	<b>66.2%</b>
"I have received the necessary PD to know which type of assessments will be more useful"	<b>67.0%</b>
"I have received the necessary PD to be able to use student assessment to inform my teaching"	<b>69.1%</b>
"I understand the language/jargon/terminology to discuss data-driven decision-making"	<b>84.5%</b>

**Results by demographic group.** In this section there is discrepancy in responses between teachers with different levels of experience. Not surprising, teachers with the most experience felt most capable in the areas of assessment and responsive instruction, and reported they have had more opportunity for professional development in this area over the span of their careers in comparison to teachers with less experience. The differences in responses can be seen below in figure 13.

**Total: Professional Development and Capacity Building**



*Figure 13.* Overall level of agreement for opportunities to build teacher capacity in DDDM desegregated by teaching experience. Representing statistically significant differences at 0.5 confidence interval.

**Results through the lens of the interpretation panel.** Interestingly, survey participants reported as a whole they feel capable using data-driven decision making practices but do not feel as strongly that they have received the adequate supports to gain this expertise. The interpretation panel members discuss possibilities for the disconnect between these responses. Many of them were surprised and felt the number of people feeling competent in using assessment to inform instruction is reported higher than it realistically should be. Others thought respondents may not have an accurate picture of their own capacity or did not feel comfortable responding in the survey that they had a weakness in this area. One IP member stated, “To be honest, I’m surprised 98% feel really good about it, but then they say they haven’t had the PD [professional development] to learn about it.” Another added, “I’m encouraged to see the number but I think it’s inflated.”

One IP member mentioned these responses may be due to a difference between having the skills to be competent in the area of assessment and responsive instruction versus having the time and resources to do so, for example, “Maybe ‘I’m capable if I have the time.’ I feel

capable, but that's different than actually doing it. Maybe you're a highly capable, very busy person." Members shared the consensus that results may have been skewed by what, exactly, the survey respondents perceived to be PD. For example, a staff member could receive quite a lot of assessment support through mentorship, staff meeting conversations, administrator guidance, etc. to build their competency, but not necessarily through formal PD or workshops. IP participants also commented on what quality professional development might look like when learning about responsive instruction. When asked what helps contribute to growing competence in this area, whether it be through working with colleagues, attending a workshop, or professional reading, participants felt it was a collection of a variety of these.

#### **Section 7: Experts and coaches available to assist**

Section eight of the framework examined the perceived accessibility of experts and coaches within this school division, and whether teachers were aware of how to connect with these individuals should they require assistance.

**Survey results.** The comparison of literacy to mathematics arose again in this section. 90.6% of survey participants agreed or strongly agreed they were aware of how to connect with experts for support in literacy instruction if needed in comparison to 82.1% of participants who responded feeling there were experts available to support them in improving instruction in mathematics. A slightly lower 78.3% perceived the same supports being available to them to help improve their classroom assessment practices. These results can be seen below in table 9.

Table 9

*Participants Responding with Agree/Strongly Agree*

"I am aware how to connect w/experts to support me in improving literacy instruction if needed"	<b>90.6%</b>
"I am aware how to connect w/experts to support me in improving math instruction if needed"	<b>82.1%</b>
"I am aware how to connect w/experts to support me in improving classroom assessment if needed"	<b>78.3%</b>

**Results through the lens of the interpretation panel.** Interpretation panel members agreed the survey data made sense based on their personal experiences and what each of them see in their schools. Given the school division's long-term focus on literacy in comparison to the new mathematics focus there have consistently been more literacy consultants, expert literacy teachers, and learning coordinators in this area versus the formal human supports available for mathematics. Also, the division has recently implemented learning leaders in many elementary schools that are provided release time to work collaboratively with staff in the area of literacy.

IP members also theorized that teachers may not see literacy and math supports as separate from the supports those same experts could assist with when it came to assessment in those subject areas, which may not have been clear in the survey. Though this school division does not employ many experts or coaches with a specific assessment focus, assessment practices certainly could fall under the umbrella of work that a literacy or math coach would work on with a teacher. One teacher agreed with another IP member in saying, "I think you're right, you know in a conversation about math I might be asking our coordinator about assessing math also, these aren't always separate."

Another theory that arose from IP discussions was the idea of who we consider experts and coaches. Perhaps these are not always consultants in the division, but a veteran teacher or a teacher known for a particular skill set to whom other teachers are going to in their own buildings. One IP mentioned, "Every school has people that are exceptionally strong that people go to...I wonder if people are referring to those people [when they answered the survey questions]." Another member added, "I think that is a strength in our division, we have some



exceptionally strong people to turn to within our own schools.” IP members stated they notice a combination of expert supports being utilized in their buildings, from making an appointment with a consultant or just informally talking with a colleague down the hall.

One member of the panel felt there may be a changing dynamic at play, and the manner by which new teachers are supported versus experienced teachers, “It is interesting, the number of folks available in those consultant roles are diminishing. [The number of] literacy teachers are way down. They aren’t embedded into our school anymore. So with picking up these new teacher groups now the learning is exceptional for newer teachers but that support is less and less later on [in a teacher’s career]. I think it’s going to be more important to have those people to go to.”

#### **Section 8: Multiple forms of assessment are valued**

Here participants were asked to comment on their use of formative versus summative assessment and to distinguish between the specific types of assessments that were considered useful and important to them when making instructional decisions. While survey questions in this section were limited to the formal assessments provided at the division or ministry level, interpretation panel members were able to broaden the discussion to speak about a variety of different types of assessments and perceptions of what makes a teacher value one assessment over another.

**Survey results.** As seen below in table 10, 84.2 % of participants agreed or strongly agreed that summative assessment was important to them when making decisions about student learning and 98.9% responded formative assessment measures were important to them for the same goal. Less than 1% of participants responded they did not understand what

formative or summative assessment was. These responses indicate assessment is important to educators, but unfortunately does not speak to how competently teachers are using assessment measures for responsive instruction and to plan for student learning needs.

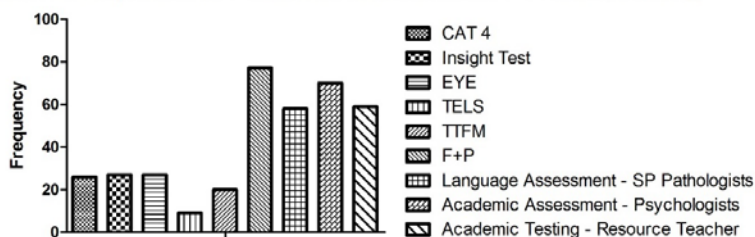
Table 10

*Participants Responding with Agree/Strongly Agree*

"summative assessment is important to me when making decisions about student learning"	<b>84.2%</b>
"formative assessment is important to me when making decisions about student learning"	<b>98.9%</b>

Participants also responded on individual assessments to indicate which were useful to them in decisions regarding student learning. In figure 14, below, we see the Fountas and Pinnell Benchmark Reading Assessment as well as formal assessments completed by speech and language pathologists, educational psychologists, and resource teachers rated to be of the most value to plan for student learning in comparison to the large-scale group assessments (CAT, Insight), the classroom-based screeners (EYE), and the Treaty Essential Learnings Survey. These results need to be interpreted carefully, since not all teachers would be using each of these assessments with the students they teach; many of these assessments are targeted to one or two grade levels only.

**"The following formal assessments are important to me when I make decisions about student learning"**



*Figure 14.* Respondents' perception of the specific assessments most important to their instructional decision making.

**Results through the lens of the interpretation panel.** Due to the limitations of the survey questions in this section, the interpretation panel conversations perhaps provided more detail on the perceived usefulness of particular assessments when planning formatively for instructional decision making. IP members theorized on why some assessments were ranked quite low in comparison to others. In speaking of the Treaty Essential Learnings Survey (TELS), one IP member figured because the survey is only given to grade seven students, more primary teachers would not find the results useful, and potentially wouldn't even have access to the results unless they were discussed school-wide. The timing of this assessment, with results made available in late spring at the end of the school year was also a point of discussion. IP members felt this did not allow for teachers to use the results formatively to guide their instructional planning.

Teachers on the panel also described the large-scale assessments, such as CAT and Insight, as perhaps being useful to resource teachers and administrators, but less so to classroom teachers. Most IP members felt their classroom-based assessments were a better reflection of a student's true learning, and more accurate as well. Participants warned against putting too much stock into one specific test when sharing their perceptions of particular types of assessments.

- “I think we’ve seen [with large-scale group assessments] that, especially in community schools, it’s not a reflection of what a student knows.”
- “I have seen people push the panic button after seeing a [large-scale assessment] score. Then you calm down, look at what the classroom teacher

has, talk with the resource teacher, and if it doesn't align with what you see on a regular basis you have to be careful of that."

- "The scores on [large-scale assessments] in my school have been so incredibly low they're scary, and I can't think the [estimated] IQ is accurate. I mean when you have a classroom that's averaging low 70s in grade 4 it's unbelievable... all low enough to be on the intensive supports list."

As the conversation continued it was clear that both teachers and administrators in this panel valued assessments they described as "closer to the classroom" or administered one-on-one by a teacher more highly than standardized group tests when it comes to using assessment information formatively to make instructional decisions.

- "I'll stand behind our F+P scores any day. We talk about it as a staff, we make sure staff that haven't done the F+P are mentored by those who have"
- "By the time you get [large-scale assessments] back, some of the kids are gone and you have a bunch of new students.... Again, those assessments closer to the classroom are more timely."
- "I feel [classroom-based assessment] is more valuable, because it's based on what I'm teaching and trying to see at the moment."

While the members were clearly in favour of assessments "closer to the classroom", administrators and teachers alike, one IP member did infer that large-scale assessments could have value at a strategic planning level for division-wide or school-wide goal setting: "The only thing I like about [large-scale assessments] is it does show that as low as our scores are in math,

we are typically a stanine or two higher in reading and literacy tasks. That score is an indicator of our stronger learning in literacy, especially for the kids who have been with us over the years.” In a conversation focused on a different framework section during this IP meeting, another member agreed with this but wondered if there are other measures we are already using, that could also provide this information for longitudinal tracking of a long-term goal, measures that cost less financially to the school division and take up less instructional time.

### **Perceived obstacles and supports for data-driven work in schools**

This section was not included in the framework of study, but was an opportunity for participants to discuss the perceived obstacles or barriers to better data-driven decision making practices in their schools and classrooms and potential supports that teachers would need to improve these practices and feel more competent in using assessment to drive their instructional decision making. Survey participants were given the opportunity to rank typical division level and school level supports that might impact the effectiveness of DDDM processes. Survey participants also ranked perceived barriers to effective DDDM processes as identified from the literature. The interpretation panel discussed these results and added their own perceptions regarding supports and obstacles for efficacious DDDM processes in schools.

#### **Perceived obstacles**

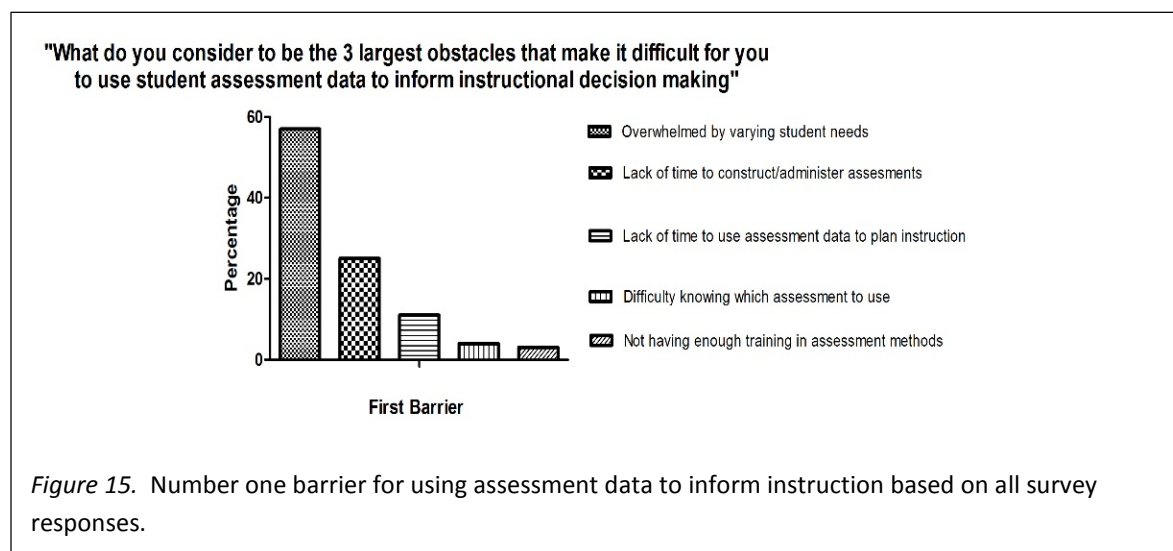
First teachers were asked to respond to perceived obstacles or barriers to effective data-driven decision-making practices.

**Survey results.** From a fixed set of choices participants responded with their top three

ordered rankings. From all survey responses, the top three obstacles for using data to inform instructional decision-making identified were:

1. Being overwhelmed by the varying needs of students;
2. Lack of time to construct and administer assessments; and
3. Lack of time to use assessment data to plan for instruction.

Following these top three responses in rank order, obstacles that also received a significant response were: difficulty in knowing which assessments to use to best identify student needs, not having enough training in effective assessment methods, and not knowing the instructional strategies to best support student learning in response to the data. It can be seen however in figures 15-17 below that these responses were much lower than the top three.



**"What do you consider to be the 3 largest obstacles that make it difficult for you to use student assessment data to inform instructional decision making"**

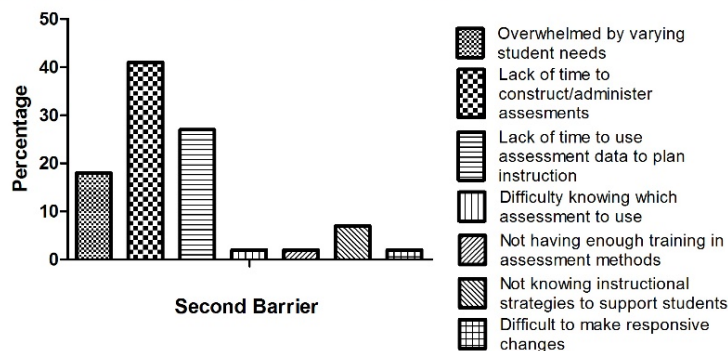


Figure 16. Number two barrier for using assessment data to inform instruction based on all survey responses.

**"What do you consider to be the 3 largest obstacles that make it difficult for you to use student assessment data to inform instructional decision making"**

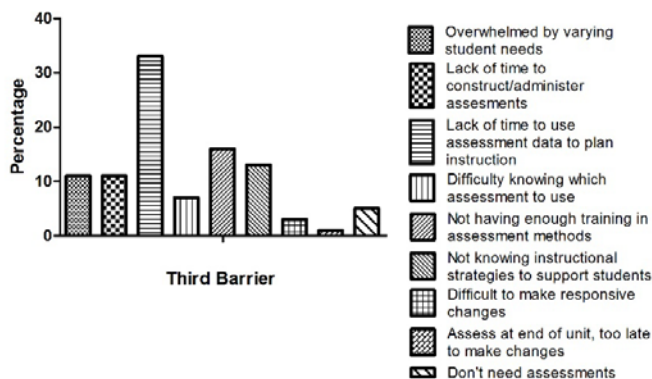


Figure 17. Number three barrier for using assessment data to inform instruction based on all survey responses.

It is evident from the responses that the availability of quality assessment tools and the concept of responsive instruction is valued. Teachers feel assessment is important, however time, training, feelings of self-efficacy, as well as multiple levels of student need are seen as barriers to better data-driven decision-making practices by teachers in this division.

**Results through the lens of the interpretation panel.** All interpretation panel members agreed these top three identified obstacles to effective data driven decision-making practices seemed accurate in their own practice, in conversations they have had with other teachers regarding assessment, and in light of previous themes that had arose in interpretation panel discussions. One member suggested these top three responses were dependent on one another as well: “So you do the assessments and you find out what your student needs are. Now you have to differentiate. You have 30 kids in your classroom and now what?” IP members identified that in light of these seemingly overwhelming barriers, it made sense that the suggested supports in the next section related to teachers wanting extra time and training.

**Perceived supports.** Just as survey participants indicated the top three obstacles or barriers to effective data use to drive instruction, participants also identified the perceived supports they felt would most increase effective DDDM practices out of a set list of options. IP members were given the option to discuss supports that were provided as survey question options, as well as any additional supports that they felt were missed.

**Survey results.** From all survey responses, the top three preferred supports identified to improve the use of data to inform instructional decision-making identified were:

1. Whole-staff professional development on using data driven decision-making practices;
2. Mentorship provided by experts; and
3. Time provided to co-plan and co-assess with colleagues.



Two supports that were identified closely behind the top three included: the opportunity to attend a workshop or professional development on data-driven decision-making practices, and quality assessments provided by the school division.

**"Which 3 supports do you feel would be most important in helping you become more effective in using student assessment data to plan for instruction"**

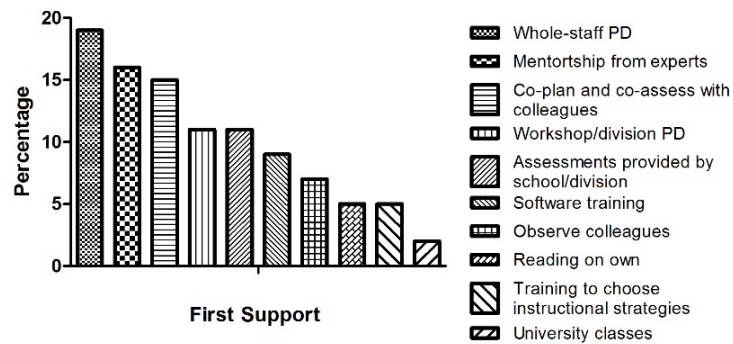


Figure 18. First preferred support for more effective assessment practices identified by survey participants.

**"Which 3 supports do you feel would be most important in helping you become more effective in using student assessment data to plan for instruction"**

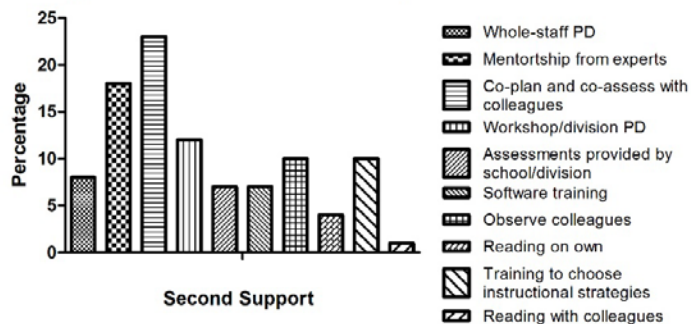
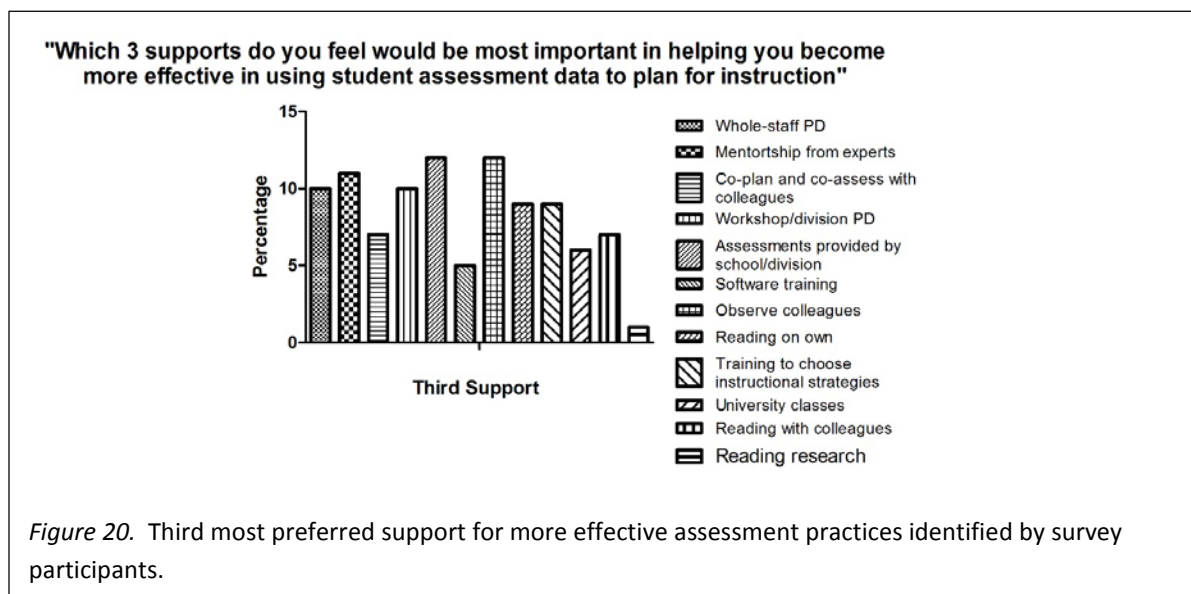


Figure 19. Second most preferred support for more effective assessment practices identified by survey participants.



**Results through the lens of the interpretation panel.** IP members figured it made sense that one of the top three choice supports included time to co-plan and co-assess with colleagues considering the reoccurring theme of time in their conversations. Some members wondered why “time to observe other colleagues” did not rank higher, considering it was a support also involving time given. One member mentioned the possible mentality of, “I don’t really want you in my class or I don’t want to observe you but I want to work with you and plan with you.” Perhaps this is a less intrusive and intimidating approach for teachers, as it would be non-evaluative.

IP members were also pleased to see that whole-staff professional development was a preferred support: “I like that it was mentioned here people want whole staff PD compared to individual PD. I think it’s powerful when you are in your school to talk as a whole staff.” Another member added, “It also makes sense to talk about your students, in your school.” The theme of valuing work that was closer to the classroom or school level continued here both in the survey

results and the IP conversations on this topic. As noted in previous IP discussion above, school-wide professional supports were valued higher than either division-wide professional supports or the idea of attending a conference or workshop individually. This finding echoed survey results and IP discussions in section two regarding the importance of whole-staff buy-in toward a common goal at the school level and working collaboratively toward a student achievement goal and creating a staff-wide feeling of ownership of that goal.

### **Final thoughts and perceptions**

During the survey, participants were given the opportunity to provide open-ended responses regarding their perceptions of data-driven decision-making practices as it links to their work in this school division. Interpretation panel members were also left with the final question, “Is there anything you feel is important that you want your voice heard on today, or important points you want to leave us with.” Here, many participants emphasised points that were important to them regarding this topic, many of which supported already emerging themes that have been discussed previously. These responses underwent analysis for thematic content alongside the themes that emerged from overall survey results and interpretation panel discussions.

### **Discussion of Thematic Content**

First, high and low trends from the online survey data were identified through calculating frequency data that varied more than one standard deviation (90% confidence interval) from the mean level of agreement (participants responding “agree” or “strongly agree”) of all survey responses ( $m=80.2\%$ ). This resulted in survey responses with a level of

agreement of 67.3% or lower and 93.0% and higher being identified. Tables 11 and 12 below indicates these high and low trends.

Table 11

*High trending responses*

"I clearly understand expectations of my school's literacy goal"	<b>96.3 %</b>
"I value my school goals and feel they are a worthy focus"	<b>96.2 %</b>
"My assessment data is organized to be easily used when I need it"	<b>89.9 %</b>
"I have easy unrestricted access to the assessment data I need"	<b>88.7 %</b>
"I use multiple forms of assessment to plan for student needs"	<b>97.9%</b>
"I feel capable using assessment to inform instructional decision-making"	<b>97.9%</b>
"I am aware how to connect w/experts to support me in improving literacy instruction if needed"	<b>90.6%</b>
"formative assessment is important to me when making decisions about student learning"	<b>98.9%</b>

Table 12

*Low trending responses*

"I had opportunity to contribute meaningfully to my school's math goal"	<b>64.2 %</b>
"Assessment measures from my CIT are valuable to my instruction"	<b>67.3 %</b>
"when asked by my SD to submit data I understand why/how it will be used"	<b>60.2%</b>
"I am supportive of how my School Div. collects/uses assessment data"	<b>57.6%</b>
"I'm provided sufficient time to discuss assessment data with colleagues"	<b>48 %</b>
"How often is time set aside to discuss student assessment as a whole staff or large group"	<b>61.6 %*</b> (at least every 2-3 months)
"I have opportunity to receive PD in using assessment to inform instruction if I need"	<b>66.2%</b>
"I have received the necessary PD to know which type of assessments will be more useful"	<b>67.0%</b>

Second, open-ended survey questions were categorized into overall thematic categories. 55 participants responded to open ended questions. Thirdly, IP group transcripts were added to the existing category themes. Themes were broadened or tightened to accommodate the new additions and new theme categories were added when an existing theme could not capture the essence of the additional IP responses. IP transcript quotations were added from each of the 8 categories of the conceptual framework as well as discussion surrounding perceived obstacles and supports. Only one quotation was added from a

conceptual framework category if it spoke to the intent of other participant responses to ensure similar responses were not repeated, or participants mentioning only “I agree” were not included. This was to keep analysis streamlined and focused on identifying common themes.

Lastly, the high and low trending survey responses were included under each theme it corresponded with best. The common six themes that have implications for school-based and division-based leadership as identified through thematic analysis include:

1. Valuing multiple forms of assessment;
2. Division-wide expectations vs preferred classroom practice;
3. Time and workload intensification;
4. Leadership and communication;
5. Resources required to be responsive to assessment data; and
6. Teacher training and capacity building.

This chapter presented the data from both the survey and interpretation panel. The six themes mentioned above, along with the conceptual framework for the study, were used to help answer the research questions in Chapter Five.

## **Chapter 5: Discussion and Implications from the Data**

### **Research Questions Answered**

The purpose of this study was two-fold:

1. To examine the current data culture in one urban school district in Saskatchewan and the extent to which teachers valued particular data-driven decision making practices.
2. To examine teacher perceptions in relation to data-driven decision making practices and what might improve these practices.

Given the purpose of this study the following research question was explored:

1. What are the perceived mechanisms K-8 teachers believe either help or hinder data-driven decision making practices:
  - a. in a teacher's own classroom?
  - b. as part of a school-wide professional community?

First, perceived mechanisms believed to either help or hinder DDDM practices in the classroom will be discussed, followed by mechanisms that either help or hinder a school-wide professional community. Discussion will be broken down under the headings of the conceptual framework as they pertain to each category of the research question. The 6 key themes identified from the research findings will be reviewed in terms of implications for theory and practice.

### **Mechanisms teachers believe either help of hinder DDDM practices in the classroom**

***Culture of trust.*** Educators support plans for data-driven decision making when they can trust the results will have a positive impact on the student learning they can directly see in their classrooms. Not only did teachers report needing to trust the assessments, but also needing to trust the messages regarding larger visions and goals connected to assessments. Teachers reported they needed to understand and have all the information before they would support specific assessment initiatives, and after hearing the details would want to feel that these practices aligned with what they feel makes sense in their classroom. Teachers typically already have an assessment plan in their classrooms and they need to trust that if they are being asked to do something different, it will be worthwhile.

In addition, teachers needed to know what is in it for them as instructors to inform their practice, and how their students would benefit from the assessments they were asked to complete. There was an eagerness among respondents to know how and why these assessment methods are more important, valuable, and beneficial than assessment practices the teacher was already initiating. Respondents seemed to understand there could be evidence-based reasons they were asked to assess in a certain way or to use a specific division selected assessment, but teachers often felt these reasons were not shared with enough detail for them to entirely trust the process.

Though educators in this study did seem to connect with the importance of building a culture of trust within a school data culture, it appeared to be more deep-rooted in the idea of

teachers' desire to be let in on the whole larger picture so they could trust the DDDM processes asked of them to be a part of a worthy and valid assessment plan. These findings were similar to Young (2006) who found that educators often value a "mutually reinforcing agenda" where they don't just feel like they are an employee going through the motions of someone else's plan. These findings did differ however from Herman and Gribbons' (2001) study which determined teachers might be fearful of the repercussions of less-desired student achievement data. Perhaps this could be due to the fact that assessment models in this school division are still considered to be low stakes for students and are not used for the purpose of evaluating teachers.

***Timely access to relevant data.*** Data that was perceived to be closer to the classroom were viewed by participants as more relevant to their teaching practice in comparison to assessments viewed as "for head office" or "for the ministry". Also, assessment tools that produced immediate data that could be used formatively for instruction, and were tied directly to the current instructional goals for the classroom were valued higher by participants in comparison to large scale data that were tied to more provincial achievement goals and did not offer teachers immediate instructional feedback because of the longer turnaround for scoring. These findings are in line with Kerr and her colleagues (2006) who attested to the importance aligning division and school's strategic plan to classroom practice and the understanding that assessment data is only deemed relevant and useful to classroom teachers if it seeks to truly inform specific learning outcomes, as outlined by Kensler et al. (2011) and Coburn and Talbert (2006).



Though participants concluded that results of particular assessments were often timely, meaning they produced usable results that could be accessed by the teacher almost immediately, the theme of timeliness also came up in relation to timelines of assessment periods. IP participants unanimously agreed there was a need for ministry and division level administrators who were mandating particular assessments to consider practical classroom timelines for assessment. For example, some teachers reported that the very beginning of the school year isn't always practical for large time blocks of large-scale assessments as teachers are still establishing classroom routines and building trust with new students.

Also participants expressed that some of the reading data they were asked to collect took place during timelines that seemed to work well for division level check-points, but teachers would prefer to collect this data either before each reporting period or at true beginning, middle and end of year time frames. When one administrator explained to the IP that these timelines are often important for ministry level reporting to access particular funding models at certain times of the year, many felt this was a valuable reason for the inconvenient time frames but felt these reasons were never communicated to them, leading to lower levels of trust and buy-in, perhaps in comparison to if all teachers understood the reasoning behind the decision for certain assessment timelines.

In terms of large amounts of data needing to be organized in a user-friendly manner for responsive instruction as Kensler (2011) suggested, this was of little issue to the teachers in this study. This school division, and this province conduct very few mandated standardized tests which perhaps creates less of a need for data rooms, organizational software programs or school-wide organizational structures in place to analyze data with ease.

***Early and ongoing intervention in response to assessment.*** Participants indicated that the task of differentiating and planning for a wide variety of students needs was overwhelming; they both needed the support from administration in understanding how daunting of a task this is and the training and resources necessary for differentiation to occur. Teachers often reported they were comfortable with collecting student achievement evidence and analysing where a student was at in terms of learning outcomes, but the task of how to take each individual student to the next level was more challenging.

Participants indicated this was even more challenging in very diverse classrooms where multiple students were perhaps on an Individualized Education Plan for special education and were achieving sometimes multiple grade levels below other students or where students were newcomers to Canada and did not speak English and may have been removed from formal education opportunities for a length of time. Teachers perceived a lack of resources, described as both human resources, such as educational assistants or special education resource teachers, and lack of classroom teaching materials to assist in early intervention for struggling students. They described these lack of resources made the task of differentiating for student learning even more challenging. In this school division it appears typical for students requiring learning interventions to be identified early, as Fullan and Sharrat (2009) deemed important, but the task of carrying through with the intervention plans, or knowing the proper plan to choose appears to more daunting.

Due perhaps to the longer focus in literacy instruction in this school division in comparison to a newer focus on math, many teachers reported feeling comfortable with using DDDM practices to improve student learning in the areas of reading , but were still learning

how to do this well in the area of math. Perhaps this is a professional development focus that is required that administrators need to keep in mind.

***Professional development and capacity building.*** Participants felt that ongoing whole staff professional development (PD) where all teachers were learning the same expectations around assessment to inform instruction were more valuable than “one shot” PD opportunities where different staff members may be learning different things depending on the workshops they were choosing along the way. Opportunity to “learn together” was clearly valued. Also, participants felt opportunities for in school mentorship and collaboration were important, whether these be formally established partnerships or informal opportunities such as a veteran teacher taking a new teacher under his or her wing or conversations over the photocopier.

It will be important for school administrators to keep staff preferences in mind while also looking to the research regarding the best PD opportunities to build capacity among staff in the area of assessment. Since communication has come up time and time again in this research project, if administrators are choosing a professional development plan for staff that does not fit their preferences, it would be important to communicate why and the research behind the decision.

As mentioned earlier, participants described themselves as very capable in collecting necessary classroom data to make informed decisions, but were less clear on how to actually make these plans come to fruition given the realities of the classroom. This indicates a need for professional development and capacity building to focus more on responsive instruction and planning for responsive instruction rather than on assessment strategies.

***Experts and coaches available to assist.*** It appears teachers feel confident in their

ability to assess and move learning forward in the area of reading. This school division has a number of years behind a literacy initiative, have employed many professional coaches and consultants in the area of literacy and invested many resources into training teachers to be effective in literacy assessment and instruction. These findings align with Fullan and Sharrat's (2009) recommendation of emphasis placed on literacy experts and coaches as a priority. This school division does not have the same supports in place yet for mathematics assessment and for responsive instruction to improve mathematics. It was affirmed through this study that the idea of an "expert" or a "coach" does not have to be a formal job description, but could be an expert teacher down the hall or in a neighboring school.

If mathematics and assessment-based experts are less available in this school division, it will benefit administrative teams to be creative with professional development resources and how less formal coaching opportunities are provided to staff in order to build capacity in these areas. For example, how might staff expertise be utilized during professional development days or during staff meetings as Kensler et al. (2011), Fullan and Sharrat (2009) and Kerr et al. (2006) suggest from their research? How might common preparation times be allocated for specific teachers to plan together? What opportunities are available for struggling teachers to observe and learn from master teachers in a given area to plan for improved instruction based on their assessment results?

***Multiple forms of assessment are valued.*** The discrepancy between resources available to assess literacy outcomes in comparison to math outcomes is an issue that impacts school leaders. Teachers and administrators participating in this study indicated they feel it is very simple to come across effective assessment strategies to collect necessary student achievement

data in the area of literacy, but less so in mathematics. A newly developed math diagnostic assessment that can help teachers with longer term planning is optional for teachers to use in their classrooms. Currently there is no provincial or division wide mathematics assessment that creates a common assessment language for colleagues to discuss student achievement in mathematics for each grade level.

Teachers indicated they would very much value student achievement data of this kind, but felt it was unavailable to them at this time, or great efforts would need to be undertaken at the school level to find common assessments that would work for everyone. Coburn and Talbert (2006) deduced from their research the importance of teachers being able to readily access multiple forms of data for different purposes and for teachers to have access to the data they deem meaningful for their instructional practices. This seems to be in line with the findings in this study, as teachers appear to be asking for a more varied access to the assessment tools they need in order to collect the assessment data they require.

### **Mechanisms teachers believe help or hinder a school-wide data culture**

***Vision and goals shared and supported by all.*** It was clear through both the online survey results and the interpretation panel conversations that teachers are supportive of their school and school division focusing on specific goals for student achievement. While there is variance between responses in the areas of literacy and mathematics, there also appears to be a disconnect between supporting and valuing school-level and school division goals versus the assessment practices used to measure these goals. While 96.2% of respondents support school-level goals and 87.6% of respondents support school division goals, a lesser 76.1% of

respondents appear to value division-level assessment practices, and an even lower 67.3% feel the assessment measures that have come from their school-based collaborative inquiry time have been valuable and useful to them. This trend seems to speak to the “loose coupling” phenomenon Young (2006) referred to where division-level visions and initiatives get lost in a top down approach where teachers are not involved the whole process through.

For teachers to buy-in to a process and see the value in it for their students they need to understand the “whys and the “hows” of what they are being asked to use their instructional time for. If teachers understand the importance behind why particular assessments were chosen and the benefit it will have for their students, they might be more inclined to support the process and feel committed to the goals. Teachers need to feel like they are a valued part of important goal-oriented work rather than just going through the motions to appease a mandate they do not understand.

***Culture of trust.*** It appears as if there is a misunderstanding among educators in distinguishing between ministry level, division level, school level data-driven decision making initiatives. Results in this study indicated that at times educators did not know if particular assessment practices were mandated at the provincial ministry level, whether senior administration had chosen these assessments to use district-wide, or whether the assessments were a school-based choice. This speaks to the research of Herman and Gribbons (2001) who suggested that all stakeholders in a strategic plan need to know why specific data is being collected and how it will be used in order to fully trust and buy-in to an action plan.

***Regular in-school grade-alike or subject-alike meeting times.*** Participants agreed that time to gather in grade-alike or subject-alike data teams was important and needed to be protected, but more structure and guidance was necessary in many cases in order for this time to be used more effectively and for the intended purpose. In addition, it was noted the importance of having commitments to each other within these meeting times in order for educators to hold themselves more accountable to this time so it was not wasted with merely collegial visiting. Teachers also indicated that larger periods of protected time were perceived as more valuable in comparison to shorter sessions within, say a staff meeting or a DDDM conversation within a larger agenda item. It appears as if teachers are eager for a collaborative professional learning agenda that is more aligned with the suggestions of Sharrat and Fullan (2009), Kensler et al. (2006) and Kerr et al. (2006) where more importance is placed on actually analysing data together with colleagues and tracking student achievement growth through a specific plan of action. These results suggest teachers are not used to working together for this purpose just yet.

***Timely access to relevant data.*** Participants of the IP focus group admitted that assessments could potentially have relevance to a larger school planning picture, or a division-wide strategic plan, and at times they were willing to perceive certain assessments as useful for these reasons. Many participants however reported feeling these reasons were not communicated down to the classroom level to teachers, or that the importance and relevance of some assessments were not communicated well enough for teachers to believe they were a good use of their instructional time to complete. Teachers shared a desire to be let in on more of the big picture as to why largescale assessments are being used. What is considered relevant

data at the classroom level for formative practice may be different than the types of data that are relevant during school-wide discussion or longer range planning.

***Multiple forms of assessment are valued.*** While discussing the value teachers place on multiple forms of assessment being valued within their school and school division's assessment plans, teachers emphasized the importance of classroom-based formative assessment data as a more useful tool to inform their day to day instructional practices. The idea emerged in this study that teachers are not used to talking about classroom-based assessment as part of school-wide discussions; they are instead accustomed to discussing standardized or large scale assessment, or assessment that produces the same measure of achievement across the board. In this division teachers seem to be well-trained to analyse and discuss assessments that are common across the division for example, the Early Years Evaluation, Fountas and Pinnell reading benchmark data, or kindergarten and grade one alphabet data, but are not as well versed in finding common evidence when discussing classroom-based data with colleagues.

Crum (2009) suggested this might come down to a lack of assessment literacy, or lack of common language among teachers when it comes to discussing different data sets. If staffs are well versed in a common assessment language then the data set does not necessarily have to be the same, but rather teachers could discuss similar learning outcomes and goals instead of the specific tool used to measure.

If teachers value these assessments at a higher level to impact the day to day learning of students, school leadership will need to work on building better data literacy and capability among staffs as well to discuss less formalized assessment data. When data sets are more raw and messy and include anecdotal observations from conferencing with students, or a checklist



indicating which students have shown they understand how to find the area of a triangle, for example, it becomes more difficult within the parameters teachers are used to to discuss school-wide data sets. School leadership will need to facilitate a changed narrative during collaborative inquiry time and data team discussions so teachers can discuss multiple forms of data effectively to improve instruction when it is not always presented in a neatly organized data set.

### **Implications for Theory, Practice and Policy**

Through data analysis in Chapter 4, six key themes emerged that had implications for school-level and division-level leadership to consider when wishing to improve school data cultures. These 6 themes are reviewed below, and implications for leaders and policy makers are discussed.

**Valuing multiple forms of assessment.** Teachers responded continuously they felt it was important for multiple forms of assessment data to be considered when being responsive to data and to plan for instruction and differentiation in the classroom. It was also deemed important that classroom-based assessment should have an equal or even higher value when being considered at the classroom or school-wide level in comparison to large-scale assessments. If teachers are to facilitate large-scale assessment for the benefit of a larger school-wide or division-wide picture over their classroom-based practice, they need to know why this assessment should be valued and be let in on the larger picture. This could potentially lead to higher-levels of buy-in and more rigorous attempts at the classroom level to obtain accurate assessment results.

Teachers cautioned that at times we rely too heavily on one type of assessment to make multiple instructional decisions. For example, the Fountas and Pinnel Benchmark Reading Assessment is reportedly used at the school-wide level to determine which students will receive specific literacy supports and to measure student success in relation to school-wide reading goals. While this specific assessment was praised and valued by most participants, teachers cautioned against putting too much stock into one assessment alone without triangulating it with other classroom-based assessments or observations to gain a more holistic picture of a student's learning.

Large-scale assessments or screeners such as the Canadian Test of Achievement (CAT), Insight test of cognitive abilities, and the Early Years Evaluation (EYE) were perceived by teachers as only a snapshot of a student's learning, and were perceived to have flaws in capturing the true learning of immigrant or First Nations and Métis students. These assessments were perceived as not having as valid results in comparison to classroom-based assessments but participants did agree these assessments could perhaps have value at the school-wide strategic planning level if it were too difficult to use classroom-based assessment to reach the same planning goals. Participants reported that using formative assessment to diagnose where a student is currently at academically and to plan for next steps is a worthy focus, but standardized or whole-group assessments may not be the best way to achieve this. School leaders will need to help teaching staffs navigate different assessment methods and how to best interpret these results to inform instruction and planning.

**Division-wide expectations vs preferred classroom practice.** In order for teachers to have more buy-in of division-wide expectations, participants in this study shared the desire for

a smaller gap between division-wide, or ministry imposed expectations and typical classroom practice. Teachers expressed they were more likely to engage in mandated processes in a meaningful way if they saw the value in these processes as having some benefit to their teaching and for student learning. Also, if these assessments aligned with practices they would value and use anyway, rather than feeling like they were merely going through the motions to appease division-level or ministry-level mandates, teachers would trust the process more. Additionally, teachers reported the need to feel that the assessment data gained from division mandated practices were being used at the school level in a meaningful way, would give them an accurate picture of student learning that was useful to instructional decision-making, fit in logically with classroom timelines, and that the processes and routines expected to lead them to a more data-driven focus felt authentic to their own practices and values.

One example that arose repeatedly was the perception of teachers that the types of assessments, namely large-scale or group screening assessments, chosen by the school division did not accurately reflect the learning of immigrant students who were newcomers to Canada, students who were not used to being assessed with paper and pencil multiple choice exams, or students in inner-city schools. Teachers also expressed the timing of these exams may not lead to accurate results as they are administered at the beginning of the year before learning routines are established or teachers have had a chance to build relationships with students. The timeliness for the results of division-wide assessments was also an issue relating to this. Teachers felt that by the time they received the results the information was not useful to them in a formative way because such a long time had passed from when the learning occurred.

Additionally, teachers expressed a desire for assessment timelines to coincide with logical classroom-level timelines. For example, the Fountas and Pinnell Benchmark Reading Assessment, a division-wide assessment tool, was highly praised by teachers and administrators as giving accurate, useful assessment data. However, teachers reported the timelines for completion of these assessments could be altered so the data is more useable. Two suggestions were for timelines to coincide with reporting periods or for them to occur at the beginning, middle and end of a school year for a more logical measure of student progress and a mid-way February check in for progress toward classroom or school-level reading achievement goals.

Lastly, teachers suggested that processes such as the Collaborative Inquiry Process and working through a professional learning plan become more streamlined and meaningful to the actual work of classroom teachers, more aligned with what they are actually doing in the classroom so it felt like meaningful work rather than extra work.

**Leadership and Communication.** At times, teachers demonstrate misunderstandings of ministry-level, division-level, and school-level initiatives. Interpretation panel input in regards to the survey data indicated teachers do not always understand the reasons why they were asked to follow certain initiatives at each of these different levels and what the value would be for student learning. This perceived lack of communication from leadership in conveying the importance of division initiatives, or bringing teachers into the “why’s” and “how’s” of a specific action plan may be leading to lower levels of buy-in when it comes to why certain assessment data is being collected and used. In this study, participants sometimes reported incorrect information, for example, thinking that a school would get a *Roadways to Reading* intervention program at their school if the school division saw something in their school-based data instead

of understanding this is a school-level decision regarding how special education resource supports are allocated.

At times educators in this study indicated they do not know the whole picture, do not understand the reasons why teachers are asked to participate in certain practices, and do not understand how their efforts in certain areas could positively impact student learning. For example, it is clear some teachers do not know the evidence-based positive effects that can come from effective formative assessment practices when reoccurring statements such as, “We know our students and their abilities because good teachers just know”, or “These assessments don’t tell me anything I didn’t already know” when research in the field indicates otherwise. It seems teachers need to be walked through the process of why these initiatives are important if they are going to support them and contribute to them in a meaningful way.

Considering teachers report high levels of agreement in believing they understand and support their school-level goals, yet only 60.2 % of participants report they know how and why their division is using the data they submit, there is a disconnect. If teachers are on board with and understand their school-level goals it demonstrates a potential that teachers could buy-in more to initiatives further from the classroom as well if they knew more about them and were meaningfully involved. The fact that they value the process of working toward school-wide goals and measuring and tracking student growth in this area suggests that with better communication and inclusion in the big picture planning, we could see higher numbers in respect to trusting these methods at the division level.

There are also opportunities for miscommunication between first hand and second or third hand information. Since leaders and data team members are part of many of these

division-level, first hand conversations they might feel more invested in the plan and feel more connected to the goals. By the time this information makes it to teaching staff at the school level, depending on the leadership strengths of the school-based administrators and data teams, this could be well communicated or poorly communicated. Teachers seemed to want more of a grass-roots feeling of inclusion rather than a top-down approach consisting of mandates. Since it is nearly impossible to get every teacher in the division together to meaningfully be a part of these conversations while firsthand information and research is delivered, school-based leadership and data team leadership will play a significant role here.

**Time and workload intensification.** One of the largest reoccurring themes of this study was the perceived time it takes to complete assessments and work through a data-driven, responsive process. This is compounded with the intensification of a teacher's workload as teachers described the data-driven processes that have been asked of them. It is important to note this study took place during a time where teacher collective bargaining issues in the province of study on the intensification of teacher time and workload have been a hot topic most recently. As a result of these concerns, as a new provincial collective bargaining agreement was signed, one of the agreements in the contract was for an inquiry to take place on the intensification of teacher time and workload. This concern was an issue that could have potentially been at the forefront of many teacher's and administrator's minds at the time of this study.

The issue of time came up in two different capacities: 1) the amount of time it takes a teacher to complete assessments, analyse assessment results, and differentiate or plan appropriately in response to the assessment data, and 2) The amount of instructional time

taken to complete assessments, despite the fact that the results are not always being used by the teacher.

Some teachers reported being appreciative of the supports provided by their administration team or school division to alleviate the barrier of time. Some of these supports included bringing in substitute teachers to cover classrooms so teachers could focus on assessment during peak assessment times or using substitute teacher time strategically when teachers who were away from the building had preparation time included in their schedules. Other teachers cited support being offered from resource teachers to either help administer individual reading assessments or to take groups of students to complete large-scale group assessments like the Canadian Achievement Test (CAT) or Insight cognitive test.

Teachers in this study also appreciated when professional development time or staff meeting time was used to analyse or discuss assessment results so this did not have to occur on a teacher's personal time. The school division also has been allocating two half-days of release time for teachers to collaborate with their CIT group within the school day to focus on responsive instruction based on data collection in literacy. With the exception of the CIT time however, these decisions are mostly school-based and would vary school to school depending on the administration team. Though there are disparities between the amount of time provided at any given school, teachers support the decision for time being given to focus on these practices.

The second area teachers had concerns about when thinking of data-driven decision making was the intensification of their workload brought on by these processes. Teachers often referred to DDDM practices as just one more thing or one more new initiative being put on

their plate on top of the already increasing demands of a teacher. Teachers seemed to think differentiating for student need or planning for responsive instruction based on what classroom data was telling them about student needs was a valuable focus but a daunting and overwhelming task. Participants discussed feeling overwhelmed by the multiple different needs of students and the amount of their personal time they would need to take to analyze student assessment data, organize it, and then plan for instruction to meet every student's learning needs.

When looking at the full picture of their student assessment data teachers report believing in the process but often not knowing where to start or how to manage. It seems many teachers feel helpless and do not yet know how to break a perceived large task up into smaller, more manageable tasks, or they do not feel they have the supports to do it. Not only does the task of differentiation and responsive instruction seem overwhelming, but also the structures teachers were asked to be involved in by the school division as one way to focus more on a data-driven process.

Teachers reported a desire for better streamlining of all initiatives involved in DDDM: data team meetings, staff meetings, professional development, meeting as collaborative inquiry teams, creating a professional learning plan etc. The paperwork and meeting time involved to complete all this work is too much in the eyes of many participants and at times felt like extra work that was not meaningful to a teacher's natural process. At times participants reported feeling they did not entirely know what was expected of them in regards to these processes and reported they were just going through the motions without feeling they contributed to meaningful work. Clarifying the roles and expectations of these structures, as well as



streamlining the process of goal-setting and paperwork might help to improve this.

**Resources required to be responsive to assessment data.** An additional theme that arose throughout this study, which relates to the theme of time and intensification, are the resources teachers perceive as required in order to be responsive to their assessment data. Teachers report the struggle with the idea of, “I have the data, I know the needs... now what?” Oftentimes, teachers reported feeling overwhelmed by the task of needing to increase student achievement all alone or they perceived that they do not have the necessary resources to reach their goals.

We know from research that we can increase student achievement without additional human resources or programs by simply how we structure lessons and how we target learning opportunities in response to assessment data (Earl, 2003; Tomlinson & Moon, 2013; William, 2011), but responses from this study suggest teachers are still perceiving a need for more resources, especially for struggling students, EAL students, and students with special needs. Teachers are looking for more human resources in their classroom as well as additional pull-out resource interventions to specifically target areas their classroom assessment data is showing needs improvement. One issue that arose continually was the disparity between literacy supports and math supports.

Not only are teachers identifying human resources as a perceived need, but also curricular and assessment resources as well to aid in diagnosing student needs and planning responsively for those needs. Similar to the discrepancy mentioned above between the human resources allocated to literacy versus mathematics, teachers are also expressing a desire for better assessments and available intervention programs to target mathematics. Some

teachers expressed feeling there was an available “road map” in this school division in terms of the assessments to use to target information they needed to know about a student’s reading achievement, and available teaching strategies or interventions to target what the data was telling them. Many participants in this study felt they did not have the same clear picture regarding how to measure and respond to students in the area of mathematics.

While assessments and corresponding supports seem to be more laid out and transparent for literacy supports, assessments and additional supports for students in mathematics are left to the discretion of a teacher or school team. Participants in this study are expressing a desire for a quality mathematics assessment that will help them track student progress over time and corresponding supports for students struggling to meet mathematics outcomes, a roadmap per se, for struggling students.

**Teacher training and capacity building.** Participants in this study allude to the disparity between literacy and mathematics in terms of teacher training and capacity building throughout the division. At the elementary level, teachers reported feeling they know what is expected and how to get there in terms of literacy assessment and instruction. Not all teachers reported feeling this way about mathematics, nor did they feel they have been adequately trained in how to use assessment methods to inform instruction.

At the division level, teachers new to the profession, or just new to the division itself, must partake in a series of professional development sessions focused on literacy instruction, while similar opportunities to learn about math are fewer and not mandated for teachers. Teachers also discussed not feeling the most competent in assessment measures right out of university, given that classes focusing on assessment at the elementary level are not mandatory

for teachers to take in the college of education at the nearby university many have attended when hired by this division.

Some participants explained they learned effective assessment practices from other colleagues, mentorship conversations and observations with other teachers, and from school-based conversations. Administrators involved in this study reported seeing this informal mentoring happening in their buildings as well and felt this was good professional learning for teachers even if it is not considered formal PD. In terms of how teachers would like to learn more about DDDM, teachers participating in this study valued whole-staff professional development where multiple staff members are learning and collaborating together, time to co-plan and co-assess with their colleagues, and mentorship opportunities with experts in the area of assessment or responsive instruction. Inferring from conversations surrounding the previous themes, teachers are identifying needing support in what to do once they have collected the data. How do they make positive changes in their classroom to support student learning? How do they best meet the needs of all students to move learning forward? And how can they do this in a manageable way without becoming overwhelmed? Professional development and leadership supports would be ideal in these areas.

### **Transferability**

This study took place in one large, urban school division in Saskatchewan within the provincial context Saskatchewan teachers found themselves in at the time of study. When teachers participated in the study to share their perceptions of data-driven decision making practices, provincial bargaining had just been completed and there was much debate at the

provincial level over whether or not, and to what extent standardized testing would take place province-wide in elementary and secondary schools as per government mandate.

In this particular school division of study, data-driven decision making practices such as school-based Collaborative Inquiry Teams and Data Teams had been newly implemented in the last seven years and discussions surrounding best assessment practices and formative assessment had been becoming increasingly more common. The suggestions and considerations for leaders that arose from this study may be helpful to leaders beyond this school district of study, however specific transferability of results should be carefully considered. This study surveyed 117 elementary teachers out of a possible 1100 and some demographic groups such as teacher librarians, additional language teachers, and itinerant teachers were underrepresented.

### **Recommendations for Future Research**

This study examined the perceptions of teachers and self-reported practices related to data-driven decision making in one urban Saskatchewan school division. While analysis from this study did answer the specifically intended research questions, some questions still remain. I wonder what the perception of administrators would be if this exact study was replicated and compared to teacher perceptions. Would school principals see the same high levels of assessment and data-driven decision making capacity in their teaching staffs in comparison to the self-efficacy teachers self-report? It appears from this study that teachers perceive themselves to have the ability and knowledge, at least to accurately measure student achievement, but there are administrative and procedural barriers that impede their ability to

use data-driven decision making processes effectively. My assumption is that administrators may have a different perception, and that they would see room for growth in teacher knowledge and ability to truly use assessment appropriately to drive their instruction. Teachers who participated in this study did admit they found it challenging to take the necessary steps toward improving instruction and student achievement after completing assessments, but I would wonder if capacity building needs to go even further. I wonder if administrators or teachers in a consulting role could further identify areas where teacher assessment practices could be improved.

It would also be interesting to dig deeper into a study that could examine the actual impact a poor school data culture could have on student achievement versus a stronger school-wide data culture. We know from research that certain data-driven practices and the manner in which teachers contribute to school-wide data-driven practices can have an impact on student achievement (Love, 2009; Reeves, 2010; Tomlinson & Moon, 2013); however there has to a point at which extra efforts have an impact of little significance. This researcher would be interested to know at what point are we doing enough from a data-driven perspective to have a significant impact on student achievement and at what point are extra efforts wasted? Is data driven-decision making a spectrum where targeted efforts equal student learning growth to a certain point and then these effects begin to level off? And how would this be measured?

Lastly, in this study teachers indicated their perceptions regarding data-driven decision making, and in turn made recommendations about the barriers and support mechanisms that could possibly lead to better data-driven processes in their school. Many of these suggestions had implications for school-level and division level leaders. Some were simple suggestions,

such as better communication regarding assessment initiatives and bring teachers in on more big-picture planning. Other suggestions would require a significant increase in money and resources, such as more time given to teachers provided to analyze data and plan for future instruction, more human resources allocated to work toward the goal of targeted intervention in response to student achievement data, the purchase of better assessment tools, and professional development opportunities. While these suggestions are all great in theory, and they would no doubt make teachers happier, would making these changes actually have a significant impact on how teachers utilize data-driven decision making practices? And in turn, would this have a worthwhile impact on student achievement? Which of these changes are worth the time, effort and money, and which are not? Just because teachers say these changes would have a positive impact on their assessment and responsive instruction practices, how can we be certain the investment would be worthwhile?

## **Conclusion**

The concept of using data to inform decision making in education is not a new concept, but there is increasing research to show the positive effects it can have on student learning, especially when data is used formatively (Black & William, 2009; Fuchs & Fuchs 1986; Hattie & Timperley, 2007; Stiggins, 2002; Tomlinson & Moon, 2013). This practice is both important at the classroom level, where teachers use formative assessment strategies to inform next steps for best instructional practices to improve student learning as well as the school-wide and division-wide level where strategic planning takes place to create common goals for improvement based on the needs of a larger student body.

Different assessment methods, formal or informal, large scale or individualized, and school-wide or classroom-based have merit for measuring and achieving different educational goals. Teachers have expressed that assessment methods which are closer to the classroom and are chosen by teachers have a greater impact in moving the day to day achievement of students forward in relation to current curricular outcomes. This theory is supported by other researchers and theorists as well (Stiggins, 2002; Tomlinson & Moon, 2013; Wiliam, 2009). It has also been indicated throughout this study that these classroom-based assessments are more difficult to discuss school-wide or division-wide because they lack a common language or measurement system to compare across different classrooms, which is also supported through Crum's research (2009).

It seems clear there is a need for multiple forms of assessment, both formal and formative, to achieve different goals. The key, however is that these goals, the purpose for measuring these goals, and the importance of the chosen assessment methods to achieve these goals are communicated accurately and effectively to all stakeholders and that effective tools and methods are chosen to best move student achievement forward. It is important educators are provided with the guidance to utilize the best assessment methods and tools, and the time it takes to complete effective assessment practices is used most effectively to make the best use of teacher instructional time. School-level and division-level leadership have a key role in guiding assessment practices in this school division and building capacity among educators to most effectively use data-driven methods to improve instruction. Leadership also must ensure that visions and goals are collaborative and communicated well to all stakeholders involved so

all believe in, and feel compelled to contribute to a plan they can see themselves and their students in. This is no simple task, but it is one that is worthwhile.



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## Appendix A: Consent for Online Survey Participation

### Survey

By completing the following survey you are helping to contribute to a thesis project for Chantelle Balicki, a master's student in the college of Educational Administration. You are also helping to contribute to a body of research regarding data driven decision making practices in the province of Saskatchewan.

Participation in the following survey is voluntary and anonymous. The survey is available to all kindergarten to grade 8 teachers in this school division. It is estimated the survey will take approximately 15-20 minutes to complete.

The intent of the survey is for the researcher to gain insight into the current data driven practices in one urban school division in Saskatchewan, teacher perceptions of data driven decision making practices, and to determine support mechanisms and obstacles that may impact a teacher's ability and desire to use data driven decision making practices in their classrooms and as part of their school staff. The intent of this research is to gain insight into what might support or hinder a data-driven school culture, not to place judgment or to evaluate current practices.

Please answer all questions honestly to best capture your professional opinions on data driven decision making practices and your current classroom and school-based practices. The researcher is interested in your honest feedback on your actual practices and perceptions rather than an attempt to answer the questions in a way in which you might feel you are expected to respond.

The results of this survey will potentially be published to a wider audience, or shared with others in this school division, but this survey is designed to honor your anonymity. Individual responses will not be shared and you will not be asked which school you currently work in.

At the end of this survey you will have the option to provide your contact information if you are interested in being part of a follow up interpretation panel focus group as part of this research project. These interpretation panels will involve small groups of teachers who will receive the results of this survey and help the researcher to interpret the responses of the survey to add further qualitative depth to the study through discussion of these results. Should you choose to express interest in this opportunity, your contact info would be separated from your survey responses to protect your anonymity.

If at any time you have questions about this survey, or this research study in general, please do not hesitate to contact Chantelle Balicki at [balickic@spsd.sk.ca](mailto:balickic@spsd.sk.ca)

Please note that you may exit the survey at any time to withdraw your participation up until the time you submit the survey on the final page.

**\*\*Note regarding privacy\*\***

Online data are collected via Fluid Surveys. Please note that Fluid Surveys is now owned by Survey Monkey –both Fluid Surveys and Survey Monkey are hosted in the United States and are subject to US laws; particularly the US Patriot Act. This act permits authorities to access records of Internet Service Providers. Fluid Surveys/Survey Monkeys servers record incoming Internet Provider addresses – including that of the computer used to complete the survey. However, it is important to note that no connection is made between your data and the computer’s IP address ... so there is no intent to connect your specific responses with your IP address. Your participation in this survey is your tacit acknowledgement that you understand these issues and accept the implications that may accrue from them.

## **Appendix B: Consent for Interpretation Panel Participation**

***Research Study:* Data driven decision making practices: A case study of an urban  
University of Saskatchewan  
Saskatchewan school district  
Department of Educational Administration**

Researcher Name: Chantelle Balicki

### **Interpretation panel focus group consent form    Adult Participation in a focus group**

#### **What is the Research?**

You have been asked to take part in a voluntary research study about data driven decision making practices.

The purpose of the study is to determine the current data driven decision making practices that exist within elementary schools in one Saskatchewan school district and teacher perceptions regarding data driven decision making practices at the classroom level and school-wide strategic planning level.

#### **What to Expect**

Discussion will take place in a small group of 5-10 elementary teachers from a variety of schools and teaching positions within your school division. Some of the participants may be known to you. The focus group will be facilitated by Chantelle Balicki, a graduate student with the University of Saskatchewan and an Acting Vice Principal in your school division.

The focus group conversations will take no longer than 1.5 hours

Participants will be asked to look at the results of the online survey data completed previously as part of this study and to engage in discussion regarding the results and the current data-driven practices and perceptions you have experienced in your own career in this school division.

#### **Voluntary Participation**

Your participation in this discussion group is *voluntary*—you do not have to take part if you do not want to.

If any questions make you feel uncomfortable, you do not have to answer them.

You may leave the group at any time for any reason.

The focus groups will be video recorded only for the researchers ease in transcribing the discussion and will not be shared with anyone outside the researcher's thesis advisory committee.

### **Risks**

We do not think any risks are involved in taking part in this study.

This study may include risks that are unknown at this time.

### **Benefits**

There are no monetary benefits provided for taking part in this research. We hope participants will benefit from sharing their knowledge, experience, and perceptions to contribute to the understanding of how teachers use data-driven practices and how teachers perceive the supports and obstacles to using data driven decision making practices

### **Privacy**

Your name and the name of your school will not be used in any publications.

The discussion will be kept *strictly confidential* by this researcher and participants are asked to respect the privacy of all members in this focus group by not discussing individual conversations or responses outside this group, though this cannot be guaranteed.

All research data will be stored in a secure, online file cabinet and video will be destroyed once the researcher's final thesis is complete.

### **Videotape Permission**

I have been told that the discussion will be videotaped

### **Sharing of Results**

I agree to be videotaped. Yes ☒ No ☐  
All elementary teachers in this school division will have access to results upon completion of this thesis via school division portal. An email will be sent describing how to access these results when they are available.

*Please print and sign your name below if you wish to take part in this interpretation panel focus group.*

---

---

NAME (print)

---

SIGNATURE

DATE

## Survey Questions

### Data Driven Decision Making Practices

Section 1
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#### Demographic Information

Please use your home school, or the school which you attend staff meetings and PD at most regularly

#### What best describes your current teaching assignment

- ☐ Classroom teacher K-3
- ☐ Classroom teacher grade 4-8
- ☐ Itinerant teacher (music, art, phys ed., 2nd language, prep release)
- ☐ EAL teacher
- ☐ Resource teacher or special ed program teacher
- ☐ Teacher librarian

#### What best describes your teaching experience

- ☐ less than 2 years
- ☐ 2 to 5 years
- ☐ 6 to 10 years
- ☐ 11 to 15 years
- ☐ 16 to 20 years
- ☐ more than 20 years

#### What best describes your involvement on your school's data team

- ☐ I have never been a member of a school data team
- ☐ I am currently a member of my school's data team
- ☐ I have previously been on a school data team, but am not on one now

In the last 5 years have you held a formal instructional leadership position in this school division (literacy teacher, consultant, administrator, learning leader etc)?

- ☐ yes
- ☐ no

## Questions About Data Driven Decision Making and Assessment

I clearly understand the expected targets and expectations of my school's literacy goal

- ☐ Strongly agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

I clearly understand the expected targets and expectations of my school's math goal

- ☐ strongly agree
- ☐ agree
- ☐ disagree
- ☐ strongly disagree

I value the goals of my home school and feel they are an important and worthy focus

- ☐ Strongly agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

The goals of my school division and my school are similar to the goals I feel are most important for the students in my own classroom(s)

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

The assessment practices that are valued in my school division are similar to the assessment practices I value in my own classroom teaching

- ☐ Strongly Agree



- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

I feel I have had the opportunity to contribute to the creation of my school's literacy goal in a meaningful way

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

I feel I have had the opportunity to contribute to the creation of my school's mathematics goal in a meaningful way

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

I feel the assessment measures (formal or informal) implemented through my CIT work are valuable and worthwhile to my teaching instruction

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

Section 3: Culture of Trust
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When asked by my school division to collect and submit student assessment data to central office I clearly understand why the data is being collected and how it will be used

- ☐ Strongly Agree
- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Strongly Disagree
- ☐ I am not asked to submit any assessment data to my school division in my current teaching position

I feel comfortable discussing my professional practices regarding student assessment with administrators at my home school without fear it will negatively impact my working environment

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

I feel comfortable discussing my student assessment data with administrators at my home school without fear of judgment or repercussion

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

I am supportive of the ways in which my home school collects and uses student assessment data

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree
- ☐ I am unsure how my school collects and uses student assessment data

I am supportive of the way in which my school division collects and uses student assessment data

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree
- ☐ I am unsure how my school collects and uses student assessment data

I feel supported by my school administrators in the assessment methods I choose to use in my own classroom

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

I feel supported by my school division in the assessment methods I choose to use in my own classroom

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

Section 4: Regular in-school, grade-alike or subject alike meeting times
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I am provided a sufficient amount of time to regularly discuss my student assessment data with colleagues

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

There is time set aside for me to discuss my instructional plans in response to my assessment data with my grade-alike or subject-alike colleagues (CIT time, staff meetings, PD days, structured times):

- ☐ Multiple times per month
- ☐ At least once per month
- ☐ Every 2-3 months
- ☐ 2-3 times per year
- ☐ Rarely or never

There is time set aside for our school to discuss school-wide assessment data as a whole staff or large group:

- ☐ Multiple times per month
- ☐ At least once per month
- ☐ every 2-3 months
- ☐ 2-3 times per year
- ☐ Rarely or never

I feel I play an active role in contributing to data driven work when collaborating with colleagues

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

Section 5: Timely access to relevant data

My student assessment data is organized (either by me or someone else) in a way so it can be easily used when I need it

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

I have easy, unrestricted access to the student assessment data I need to make instructional decisions

- ☐ Strongly agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

I have access to the following assessment results if I need them

(check all that apply)

- ☐ CAT 4 (Canadian Achievement Tests)
- ☐ Insight test of cognitive abilities (formerly Canadian Test of Cognitive Skills)
- ☐ EYE (Early Years Evaluation)
- ☐ TELS (Treaty Essential Learnings Survey)
- ☐ TTFM (Tell Them From Me)
- ☐ F+P (Fountas and Pinnell Benchmark Reading Assessment)
- ☐ Language Assessments from Speech and Language Pathologists
- ☐ Academic and/or cognitive testing completed by an Educational Psychologist
- ☐ Academic testing (ie. Kaufman, Woodcock Johnson) completed by a Resource Teacher

When I complete a large-scale assessment with my students (EYE, CAT, Insight, TTFM, TELS etc) results are made available to me in a timely enough manner to be useful

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree
- ☐ The students I teach are not involved in these assessments

Section 6: Early and Ongoing intervention in response to data

In my own teaching practice, I utilize multiple forms of student assessment to plan for students needing modification, extension, differentiation or intervention

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Agree

I feel the majority of K-grade 8 teachers utilize multiple forms of assessment to plan for students needing modification, extension, differentiation or intervention

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

School-based academic interventions (resource groups, targeted support, opportunities for gifted learners etc) in my school are decided by:

- ☐ Collegial conversations alone
- ☐ Student achievement data and collegial conversations
- ☐ Student achievement data alone
- ☐ other, please specify: \_\_\_\_\_
- ☐ I'm not sure how academic interventions are decided at my school

Intervention plans and plans for student programming are made early and in a timely manner, given the resources available

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree
- ☐ I am not sure when these plans are made in my school

Intervention plans and plans for student programming in my school are fluid, responsive, and flexible

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree
- ☐ I don't know

I feel confident students have been chosen in an informed way to receive supports and interventions in my school, given the resources available

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

Supports and plans for student programming in my school change throughout the year based on evidence of student need

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

Section 7: Professional Development and capacity building
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I feel capable in using assessment to inform instructional decision making in my classroom

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

There are opportunities for teachers at my school to receive professional development in using assessment to inform instruction if needed

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree
- ☐ I don't know

I have received the training necessary to know which types of assessment data will be most useful to collect in my classroom

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

I have received the professional development I need to effectively be able to use student assessment to inform my teaching practices

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

When discussing student assessment data with my staff, I understand the language of data driven decision making (the jargon and terminology used)

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

Section 8: Experts and Coaches available to assist

I am aware of how to connect with expert teachers, coaches, or consultants to support me in improving literacy instruction in response to my student assessment data if I need it

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

I am aware of how to connect with expert teachers, coaches, or consultants to support me in improving math instruction in response to my student assessment data if I need it

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

I am aware of how to connect with expert teachers, coaches, or consultants to assist me in classroom-based assessment if I need it

- ☐ Strongly Agree

- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

Section 9: Value placed on multiple assessment forms
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Please answer the following questions to indicate your perception of the importance of these various assessment categories

Summative, classroom-based assessment is important to me when I make decisions about student learning

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree
- ☐ I am unsure what summative assessment is

Formative, classroom-based assessment is important to me when I make decisions about student learning

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree
- ☐ I am unsure what formative assessment is

The following formal assessments are important to me when I make decisions about student learning

(check all that apply)

- ☐ CAT 4 (Canadian Achievement Tests)
- ☐ Insight test of cognitive abilities (formerly Canadian Test of Cognitive Skills)
- ☐ EYE (Early Years Evaluation)
- ☐ TELS (Treaty Essential Learnings Survey)
- ☐ TTFM (Tell Them From Me)
- ☐ F+P (Fountas and Pinnell Benchmark Reading Assessment)
- ☐ Language Assessments from Speech and Language Pathologists
- ☐ Academic and/or cognitive testing completed by an Educational Psychologist
- ☐ Academic testing (ie. Kaufman, Woodcock Johnson) completed by a Resource Teacher



Section 10: supports and barriers

Which 3 supports do you feel would be most important in helping you become more effective in using student assessment data to plan for instruction

(Choose 3)

University classes on data-driven decision making practices	Whole-staff PD your school data-driven decision making practices	Attending a workshop on data-driven decision making practices	Mentorship from experienced teachers	Professional reading on your own	Professional reading with colleagues/book club	Training in software/computer programs to assist in organizing data	Opportunities to co-assess and co-plan with other colleagues	Learning the research behind how data-driven decision making practices effect student learning outcomes	Opportunities to observe assessment practices of my colleagues	Other, please specify _____
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What do you consider to be the 3 largest obstacles that make it difficult for you to use student assessment data to inform instructional decision making

(Choose 3)

(this will be changed into a format to help rank 1, 2, 3)

Not knowing which assessments to use	Not knowing which instructional strategies to choose in response to the data	Being overwhelmed by the varying needs of my students identified from the assessment data	Lack of time to assess students on a regular basis	Lack of time to plan for instruction in response to assessment data	I do not value using student assessment data to inform my instruction	I typically assess at the end of a lesson or unit-it is too late to alter my instructional plans	I already have my instructional plans set, it is too difficult to change them after assessment	other, please specify_____
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#### Section 11: Open ended questions

Please describe the ways you use student assessment to inform instructional decision making in your classroom

Please describe the way your school team uses student assessment data to inform school-based decisions (strategic planning, school-wide goals, professional development, school-wide decisions etc)

What else would you like this researcher to know about your perceptions or practices regarding data-driven practices to inform classroom-based or school-based decision making

Would you be interested in being contacted to participate in a follow-up focus group interview to discuss the results of this survey? (likely to take place at the end of May for 1.5 hours after school)

- ☐ Yes
- ☐ No

If you wish to be contacted regarding the follow-up focus groups, please provide your name and contact info below (redirect to new website, separate from survey site to ensure anonymity)

This information will be kept confidential and separate from your survey results in order for your anonymity to remain in tact

## **Appendix D: Interpretation Panel Questions**

### **Section 2: Vision and Goals are shared and supported by all:**

- Why do you feel teachers responded more positively in referring to literacy goals over math goals?
- Why might the responses have been more positive for certain groups (data team members and leadership position, resource teachers)
- What has your experience been in contributing to your school-wide goals, how are these goals determined in your school?

### **Section 3: Culture of Trust:**

- There seems to be a disconnect of teachers not understanding why data collection at the division level occurs and how this data is used. Is it important for teachers to know this? Why/why not?
- What has your experience been at your school, do teachers understand and support division-wide data collection? What might they not agree with?
- More positive responses from DT, leadership, resource...do you see this in your school setting? Why might there be different responses in these demographics compared to classroom teachers?

### **Section 4: Regular in-school grade-alike or subject-alike meeting times:**

- What do these meeting times look like at your school? (staff meetings, PD days, CIT, prep time?)
  - School wide
  - Smaller groups
- Teachers in a leadership role seem to agree there is more time for these meetings than teachers in a non-leadership role. Why do you feel there is a disconnect here?

### **Section 5: Timely Access to Relevant Data:**

- Which data (provided by our school division ie. CAT, insight, TTFM, F+P) is most relevant to you...why?
- How do teachers/leaders in your school use these data? Do they help contribute to a data-driven culture at your school?
- What other forms of data is relevant to your instruction? Your school team?

### **Section 6: Early and Ongoing Intervention in Response to Assessment:**

- What does intervention planning look like at your school? What types of data help to inform this? (in the classroom, to plan for resource supports etc.)
- Why do you think there is a discrepancy between the way teachers view themselves and others in terms of assessment use (Questions 1&2)?

### **Section 7: Professional Development and Capacity Building**

- What helped you learn/build capacity in the area of using assessment to inform instruction? What would have made this learning better for you?
- Why do you think there is a discrepancy for DT members, resource teachers, more experienced teachers? What might help all educators to have the same capacity as leaders, data team members and resource teachers?

### **Section 8: Experts and Coaches Available to Assist:**

- In your experience, do schools utilize the experts/coaches/consultants in our division effectively? What could improve this?
- Why might there be a difference in the responses regarding math vs literacy

### **Section 9: Multiple Forms of Assessment are Valued:**

- Does the data regarding which assessments are valued the most align with your beliefs and practice?
- What makes assessment data valuable to teachers? To leaders?
- What other types of assessments do you use/value? (formal or informal) should these data be incorporated into division-level improvement efforts or stay at the school/classroom level? Why or why not?

### **Section 10: Obstacles and Supports:**

- Take a look at the top 3 responses, does this fit with what you see and hear at your school?
- Are there structures in place at your school or in this division to support teachers with these obstacles or to provide the supports teachers describe in this survey as the top 3? What might this look like?

Is there anything else you want me to know about your perceptions or practices regarding DDDM?

